Asian J. Psychol Educ.
Vol. 15 1985
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The Asian Journal of Psychology and Education

Vol. 15.] **March : 1985** **[Number 2**

5,39

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PUBLISHED BY

Agra Psychological Research Cell
TIWARI KOTHI, BELANGANJ, AGRA-282004 (INDIA)
(Phone : 64965)

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Asian Journal of Psychology and Education
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Areawise Self-Disclosure of Male and Female Teacher Trainees

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14 male and 15 female B. Ed. trainees randomly selected were administered Sinha's 'Self-disclosure' inventory. Their marrital status and cultural background were controlled. Man-Whitney U Test revealed an insignificant difference between total self-disclosure of male and female teacher trainees. The comparisons of various areas of self-disclosure of male and female trainees showed that insignificant differences existed between all areas except the area of personality. Female trainees earned significantly more ranks than male trainees meaning there by that females disclose their personality significantly more than males.

INTRODUCTION

Sex-difference in self-disclosure has been studied by researchers (Pedersen and Higbee, 1969 ; Dimond and Hellkemp, 1969 and Sinha, 1972). Tripathi (1975) studied the self-disclosure differences in the areas of money and personality. Sinha and Saun (1979) explored the areawise self-disclosure in male adolescents. But the difference between the areas of self-disclosure of male and female teacher trainees (B. Ed.) has not been explored. The present study is an attempt in this direction.

METHOD

Sample : 14 male and 15 female students from B. Ed. class of Government postgraduate College, Pithoragarh were randomly selected. The marrital status and cultural background of the subjects of two groups were controlled.

Tool : Sinha's 'self-disclosure inventory' Sinha, (1977) was used to measure the self-disclosure of the subjects. There are eight areas in the inventory. They are : (1) money, (2) personality, (3) study, (4) body, (5) interests, (6) feeling ideas, (7) Vocation and (8) sex.

RESULTS AND DISCUSSION

Man-Whitney U Test (Siegel, 1956 ; pp. 119-120) was applied to find out significant difference between the total self-disclosure scores and areawise self-disclosure scores of male and female teacher trainees. The value of U between the total self-disclosure of male and female teacher trainees was found to be 100 which was significant at ·05 level of significance. It seems that at an advanced age and training the sex-difference in self-disclosure disappears.

Areawise differences in self-disclosure are shown in the following table :

Table 1

Showing areawise significant differences in self-disclosure of male and female teacher trainees :

S. No	Areas	Ranks	Earned	U-value	Remarks
		Males	Females		
1.	Money	198	220	95	Insignificant
2.	Personality	157	264	55*	Significant at 05
3.	Study	176	259	71	Insignificant
4.	Body	174	215	69	-do-
5.	Interests	188	247	83	-do-
6.	Feeling-ideas	228	214	87	-do-
7.	Vocation	234·5	200·5	80·5	-do-
8.	Sex	225	180	60	-do-

The above table indicates that value of U for none of the comparisons is significant, except for the area of personality. Here the male trainees have obtained significantly lesser ranks than female trainees (U-55 ; ·05). It means that female teacher trainees disclose their personality more than male trainees to a significant way.

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* When the observed value of U is equal to or less than that value given in the table of U, null hypothesis may be rejected at the level of significance indicated at the head of the table (refer to Siegel, 1957 : P. 119).

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1985, Vol. 15, No. 2, Page 3–5

Development of A Scale in Hindi to Measure Teachers Attitude Towards Teaching Profession

Dr. P. C. Shukla

For the purpose of constructing the Teachers' Attitude Scale (TAS) Thurstone's (1946) definition and Techique have been utilized. Thurstone defines an attitude as the degree of positive or negative affect associated with some psychological object. By a psychological object, Thurstone means any symbol, phrase, slogan, person institution, ideal, or idea toward which people can differ with respect to positive or negative affect. A particular job, for example. may be a psychological object. The same approach was adopted for defining the trait "Teachers' Attitude" for constructing the TAS. Therefore, teachers' attitudes means Teachers' positive-negative relationship with the teaching profession, school, education, working conditions of. the school, teachers, students and other aspects of school life constituting the life-space of teachers' professional boundaries. In fact, what teachers attitudes mean is determined by the individual items placed in the TAS. High Score on this scale means more favourable attitude and low scores means-less favourable attitude toward teaching as a profession.

Construction of the Scale

Having defined the Teachers' Attitude, the researcher started constructing the items for the scale. Initially one hundred and fifteen items had been written out and they constituted the Draft Teachers' Attitude Scale (TAS) Likert type five-point rating scale scheme was adopted for collecting the response from the teachers. The five alternative responses provided include the following categories :

Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree. The items were throughly screened and edited. The items which seemed to overlap with one another were critically examined. An item conveying the idea quite clearly was retained. If the item was found vague or not clearly understandable either its language was changed or it was replaced by a new one. Several criteria were formulated and followed in the selection and editing of the statements. The criteria suggested by Thurstone and Chave (1929), Likert (1932), Bird (1940), Edwards and kilpatric (1948) have been utlized in the selection

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and editing of the statements. After editing the items the scale was pre-tried out on 30 basic school teachers of Sitapur district to know the deficiencies of the scale and the difficulties of the teachers in responding and required changes were made. The whole of the scale was designed to yield one single score. This scale was given to three experts in the field of Education and Psychology to judge the suitability of the items. If some of them expressed some doubts about some items, these were reviewed and changed or were replaced by new items. With these revised items a scale of one hundred and fifteen items was prepared to get responses from the subjects on these items. The instructions for recording the responses were written on the front page of the scale.

Item Analysis :

The scale, being a self-administering instrument, was given alongwith response-sheets to one hundred and eleven Basic School teachers of Sitapur district for recording their reactions. The response-sheets were collected from them personally or through other persons. The response sheets so received were scored for all the III teachers so as to obtain a single total score for each teacher. Their response sheets were then arranged in a file according to the magnitude of the total scores, the highest score being at the top, then next lower and so on. After this the investigator selected 27% upper and 27% lower response-sheets. According to kelley the optimum point for two conditions, sharpness of the differentiation and reliability of the statistics, is reached when upper 27% of the sample is compared with lower 27%. The t-test was used for calculating item discrimination values and selected only those items which had t-values equal to 2·58 or more Thus, fifty items were selected to construct the final form of the scale.

Reliability :

The test-retest reliability was computed for this scale. In order to find out test-retest reliability the scale was administered to 100 Basic School Teachers of the district of Sitapur. The scale was scored for these 100 teachers. After three months the scale was readministered to the same 100 teachers and was scored for them. Thus, two sets of scores for the sample of 100 teachers were obtained at two different times. Product Moment correlation was computed between these two sets of scores. The computation of this coefficient of correlation was found to be ·89. This may be considered satisfactory for the purpose in hand.

Validity :

In the first instance attempts were made to improve and ensure the face validity of the TAS. This was done on the basis of expert's opinions. The items of the scale were read by several experts. They all expressed full satisfaction with the trait or behaviour each item was measuring. Only after that the final from of the scale was subjected to validity.

In order to establish validity of the Teachers' Attitude Scale, Teacher Attitude Inventory of Dr. S. P. Ahluwalia was considered to be the most suitable criterion measure. This inventory is not exactly similar to the present scale, yet, in the absence of any other more relevant criterion it was considered to be a workable criterion At least some indication of the validity of the scale could be obtained through this. For this purpose Teacher Attitude Inventory was administered to the same group of one hundred basic school teachers to whom Teachers' Attitude Scale had been administered for finding out reliability. Scores obtained on these two tools were correlated together and a coefficient was obtained. This came to be +0 69 which may be considered satisfactory.

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AGRA–2

Asian Journal of Psychology and Educatio
1985, Vol. 15, No. 2, Page 6–12

Effects of Affectional Deprivation on Tribal Children A Study of Sex Differences

A. K. Agarawal and R. N. Pandey*

This paper attempts to describe the sex differences in respect of Affectional Deprivation of tribal students. To achieve this goal the authors first administered Dr. Tandon's SMYP (2/70) to a sample of 96 male and 112 female tribal students of Rohilkhand and Lucknow region. On the basis of the 'Number' and Uniqueness', scores obtained on this test, 20 students each were selected for the administration of Rorschach Test. Both groups were divided in four sub-groups on the basis of age and intelligence. Results indicate that male group shows less co-ordination, less reaction time, less suggestibility, lower level of aspiration, limited field of interests, more disturbed effectional sphere, more oppositional trend and aggression, less acciability, impulsive behaviour less adjustment and better ego-organisation than female group. Both, groups show less creativity.

The foundation of personality traits take place in the early childhood. It is the time, when child seeks affection from his parents and family members. In this age, the child wants protection from physical harm, sympathetic behaviour and warm physical contact to feel secure by himself. He wants attention and shows dependent behaviour. 'Affection' is a mental state of love, a general term for emotional state of kind feeling and warm relations. The main factors of Affection are—(a) Feeling of Security. (b) Self-Acceptance and (c) Sympathetic Behaviour.

Prolonged feeling of loss, inadequacy or lack of gratification of any need indicates the concept of deprivation. In the condition of less physical contact, parental loss, long parental separation or rejection, child feels affectional deprivation. Enough data has been now gathered to prove that affectional deprivation effects personality structure adversely. Personality researchers like Langmeier (1970) proposed that deprived group showed less physical, motor, adoptive, social and language developments. Taylor (1970) found disturbed sequence of cognitive development due to affectional deprivation. Bartos ole (1967),

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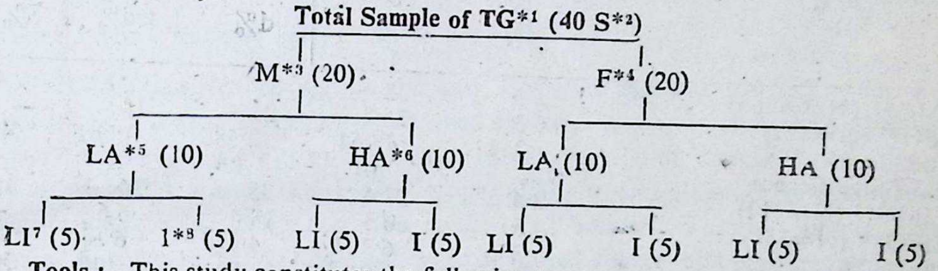
Yando & Zigler (1971), Dennis, W (1960, 73) Provence & Lipton (1962) & Tripathi & Misra (1975), stated that affectional deprivation shows adverse effect on personality structure. Sinha, D. (1973) Bauer (1974), and Tizard (1974) maintained that affectional deprivation has negative correlation with sociability and aggressive behaviour. Fernandez (1973) asserted that affectional deprivation produces pathological elements in the development of personality.

In Ashram Schools, tribal students may also feel affectional deprivation due to long hostelling and isolation from the family, because they are not allowed to visit their parents frequently. Many researchers like, Fogelman (1970), Zahour (1971), Dutt N. K. (1977), Parikh (1977), Rawat & Agarwal (1977) maintained sex differences in personality structure. Since sex differences are closely related to personality structure of affectionally deprived children. An attempt has been made in this paper to study the personality pattern of male and female tribal students of Ashram type schools.

Mehod and Procedure

Sample—Population of the present study, constitutes the school going children of both sex of VI and IX classes belonging to Ashram Schools of U. P. located at Rohilkhand and Lucknow region. This Population has a sample of 40 students, 20 each from male and female groups. Groups were matched on the basis of Age Range, I. Q. Range and mean I. Q. of every group. An attempt was made to control the relevant variables by keeping them constant. Other interveining variables were controlled by drawing a random sample from the population. The schematic presentation of sample is given below indicating paradigm of the present study :



Tools : This study constitutes the following tests :

(a) Samoohik Mansik Yoghata Parikcha (2/70)

To identify intelligent and less intelligent students these 208 students were given Dr. Tandon's verbal group intelligence test. It is a pointed scale in omnibus form and has a Total of 91 questions, employing seven type of subjects namely, Number series, Vocabulary, Similars, Vocabulary opposites, classifications, Best Answers, Analogies and Reasoning. All the questions have been framed in selective type providing 4 to 5 alternatives to each. It can be used on school going children of Hindi speaking areas of India of the age group 10 years to 16 years. One score is provided to one correct answer. Raw scores are changeable in I. Q's with the help of age and grade norms. The test has very high reliability which comes ·93. The 'g' saturations of the test range from ·5354 to ·8009 and correlations against the examination marks for class X, IX and XII have come to ·36, ·59 and ·42 respectively.

(b) Rorschach Ink Blot Test

Developed by Rorschach H. has been used to assess personality structure of the students. This is a projective test and the results of Stone's (1953) study showed that Rorschach tapes deeper levels of personality than does the TAT. This test has ten cards, I, IV, V, VI, VII achromatic (black and gray colour), and II, III, VIII, IX & X chromatic cards having various colours Achromatic cards mainly measure depression and affectional sphere and the chromatic cards measure emotional sphere. Administration, instructions and scoring of the test are similar to Klopfer Method. Sicha & Sicha (1936), Hertz (1935), Ford (1646), found the reliability of Rorschach Test between ·80 to ·97. validity researches stated that RIBT has been shown at present to have neither satisfactory validity nor invalidity. Validity of this test depends on (a) The language of the subject and interpreter, (b) Suffeciency of data, (c) Representative sampling.

Results and Discussion

Rorschach responses of the present study indicate that affectional deprivation has sex-differences.

Table--1

'LOCATION PERCENTAGE OF TG. CLASSIFIED ON THE BASIS OF SEX'

Type of Groups	Location Percentage				
	W%	D%	d%	Dd%	S%
TYIMG*2 (N*1=265)	5·6	32	35	17·7	9·4
TYIFG*3 (N=192)	6·3	55·2	25	14	—
t-value	·314	4 964	2·586	1·061	4 369
Level of Significance	X	·01	·05	X	·01
TYLIMG*4 (N=212)	2·4	27·4	35	34	1·4
TYLIFG*5 (N=152)	14 5	60 5	18 4	6 6	—
t-value	4·335	6·327	4·476	6·168	1·465
Level of Significance	·01	·01	·01	·01	X
TOIMG*6 (N=365)	·27	17	41 5	32·7	8·5
TOIFG*7 (N=241)	10	37·8	27 8	23·2	1·2
t-value	5·886	5 766	4·437	3·524	4 827
Level of Significance	·01	·01	·01	05	·01
TOLIMG*8 (N=300)	3	24	34	36·7	2·3
TOLIFG*9 (N=284)	4 2	38	37·3	18	2·5
t-value	2·634	4·663	·832	4·053	·158
Level of Significanee	·5	·01	X	·01	X

*1 Total No. of Responses produced by the group.
*2 Tribal Younger Intelligent Male Group.
*3 Tribal Younger Intelligent Female Group.
*4 Tribal Yonnger less Intelligent Male Group
*5 Tribal Younger Less Intelligent Female Group.
*6 Tribal Older Intelligent Male Group.
*7 Tribal Older Intelligent Female Group.
*8 Tribal Older Less Intelligent Male Group.
*9 Tribal Older Less Intelligent Female Group.

Klopfer indicates that below 15% W responses show lower ability of Coordination, below 45% D responses indicate loose relationship between perception and reality and abova 55% D responses show more generalise behaviour as indicator of feeling of insecurity. Too much less W% and below 45% D responses indicate higher ability of differentiation, with feeling of insecurity. Above 10% Dd+S indicate the same direction as of d percentage. Above 3% S responses show oppositional trend of personality.

The results of table No. 1 indicate that TYIMG has significantly more d, and S% whereas mean scores indicate less W and D% from TYIFG These facts indicate that TYIMGhas disturbed sphere of Coordination, loose relationship between perception and reality, more ability of differentiation with feeling of insecurity and oppositional trend of personality whereas TYIFG has less interest in Coordination, more peneralised behaviour and more ability of differentiation with feeling of insecurity. So we can say that TYIMG has more disturbed sphere of Coordination. Aggression and feeling of insecurity than TYIFG.

TYLING has significantly less W and D% but more d and Dd% whereas mean scores indicate more S% than TYLIFG. These results indicate that TYLIMG has disturbed sphere of Coordination, loose relationship between perception and rerlity of differentiation with feeling of insecurity and oppositional trend of personality whereas TYLIFG has proper ability of Coordination, more generalised behaviour and more ability of differentiation with feeling of insecurity. These results indicate that TYLIMG has less ability of Coordination, and more feeling of insecurity than TYLIFG.

TOIMG has significantly less W and D% but more d, Dd S% than TOIFG. Responses indicate that TOIMG has disturbed sphere of Coordination, loose relationship between perception and reality of differentiation with feeling of insecurity and oppositional trend of personality whereas TOIFG has proper ability of Coordination, loose relationship between perception and reality and more ability of differentiation with feeling of insecurity. These results indicate that TOIMG has more disturbed sphere of Coordination loose relationship between perception and reality feeling of insecurity and oppositional trend of personality than TOIFG.

TOLIMG has significantly less W and D%but more Dd%than TOLIFG. Mean scores indicate that TOLIFG has less d%than TOLIFG. These results indicate that both groups have disturbed sphere of Coordination, loose relationship between perception and reality and more ability of differentiation with feeling of insecurity. TOLIMG showed more disturbed sphere of Coordination, loose relationship between perception and reality and feeling of insecurity.

In the light of these results it can be said that male group has more disturbed sphere of Coordination, oppositional trend of personality or aggression, insecurity feeling loose relationship between perception & reality, and critising nature than female group. Female group shows more generalised or suggstive behaviour than male group.

Table--2

Productivity Scores of Different Tribal Groups Classified on The Basis of Sex.

Groups		Productivity Scores of Different Groups			
		YIG*1	YLIG*2	OIG*3	OLIG*4
	N (MG)*5	265	212	365	300
	N (FG)*6	192	152	341	284
Mean	TMg*7	53	42	73	60
	TFG*8	38	30	48	57
Ex^2	TMG	4356	1156	15376	10404
	TFG	1369	324	1849	3721
't-value'		3·09	4·357	3·543	·434
Level of Significance		·05	·01	·05	X

Klopfer indicates that average intelligent adult produces between 25 to 40 responses on these Rorsch cards. Excess of it shows feeling of insecurity whereas decline in productivity shows unresponssiveness.

The results of Table-2 indicate that in respect of YIG, YLIG & OIG, TMG showed significantly higher productivity. Mean scores show that in respect of OLIG, TMG has more productivity than TFG. These results indicate that TMG has more productivity than TFG. It confirms the result of Location percentage of Rorschach test that male group has more feeling of insecurity than female group.

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*1 Younger Intelligent Group.
*2 Younger Less Intelligent Group.
*3 Older Intelligent Group.
*4 Older Less Intelligent Group.
*5 Total Responses of Male Group.
*6 Total Responses of Female Group.
*7 Tribal Male Group.
*8 Tribal Male Group.

Table--3

RT of Different Tribal Groups Classified on The Basis of Sex.

Type of Groups		RT*1 in Second (N=5 in each group)					Sphere of Disturbance.
		TT*2	TT/R*3	T/IR*4	ART-Achro*5	ART-Chro*6	
Mean	TYIMG	3929	62	41	53	40	Affectional
	TYIFG	3665	97	60	59	61	—
t-Value		·4706	2·143	1·403	·356	1·336	
Level of Significance		X	X	X	X	X	
Mean	TYLIMG	4846	111	100	121	109	Affectional
	TYLIFG	3341	107	66	71	72	—
t-Value		1·135	·141	1·026	1·111	·730	—
Level of Significance		X	X	X	X	X	
Mean	TOIMG	5183	85	73	83	63	Affectional
	TOIFG	4155	87	59	61	56	—
t-Value		1·092	0·87	·622	·736	·312	
Level of Significance		X	X	X	X	X	
Mean	TOLIMG	4686	86	63	93	70	Affectional
	TOLIFG	3548	73	72	81	63	Affectional
t- Value		1·852	·776	·357	·500	·336	
Level of Significance		X	X	X	X	X	

Klopfer indicates that above 60 sec, T/IR shows depression or slow mental process whereas below 30 sec. shows lack of interest or escaping tendancies. About 60 Sec. ART-Achro shows disturbed sphere of Affection whereas above 60 Sec ART-Chro shows disturbed emotional sphere. An excess of more than 10 sec between ART-Achro and ART-Chro. indicates preponderance of traumatic experiences in either Affectional or Emotional sphere.

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*1 Reaction Time.
*2 Total Time
*3 Average Time per response
*4 Average Time for initial responses.
*5 Average Reactime Time for Achromatic cards.
*6 Average Reaction Time for Chromatic cards.

The results of Table No. 3 indicate that at this stage male group does not show any significant difference in any category of RT from female group, but all the male groups show disturbed affectional sphere. Out of four, only one female group shows such type of disturbance. Mean scores indicate that male group shows more RT than female group. These results confirm the results of Location scores of Rorschach responses which indicates that male children feel more disturbed due to Affectional Deprivation than females. The findings of the present study are in consonance with that of Tandon R. K, (1967).

Table--4

CREATIVITY AND SUGGESTIBILITY PERCENTAGE OF TRIBAL GROUPS CLASSIFIED ON THE BASIS OF SEX.

Type of Groups	Percentage of Creativity and Suggestibility.							
	YIG*1		YLIG*2		OIG*3		OLIG*2	
N (MG)L*5	265		212		365		300	
N (FG)L*6	122		152		241		284	
		*7	*8					
	O%	P%	O%	P%	O%	P%	O%	P%
TMG*9	10·9	8 3	5·6	6·1	11·5	4·1	4·3	8·3
TFG*10	13·5	16·7	2·6	18·4	8·8	13·8	3 5	11·3
t-Value	·845	2·745	1·384	3·665	1·065	4·31	499	1·221
Level of Signi.	X	·5	X	·05	X	01	X	X

Klopfer indicates that an intelligent adult can produce 15% popular and 30% Original responses in respect of productivity range between 25 to 40 responses. The results of table No. 4 indicate that male children do not show any significant difference in Creativity

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*1 Younger Intelligent Group.
*2 Younger less Intelligent Group.
*3 Older Intelligent Group.
*4 Older Less Intelligent Group.
*5 Total responses produced by Male Group.
*6 Total responses produced by Female Group.
*7 Original Responses (Creativity.)
*8 Popular Responses. (Suggestibility)
*9 Tribal Male Group.
*10 Tribal Female Group.

than female children, but means indicate a tendency for the male group to score better than female group on the while both the groups have lower level of Creativity, confirming the previous findings of Tiwari and Sharma (1978). Female group has significantly more suggestibility than male group, confirming the finding of Dutt. N K. (1977).

Other ratios of Rorchach Test maintained that male children have impulsive behaviour better ego-organisation, more oppositional trend and and aggression, more criticising nature more disturbed affectional sphere less sociability, less coordination less reaction, less reaction time, lower level of aspiration, less suggestibility, limited field of interest and less adusted than female children.

In the testing period it has been observed that institutional environment is also responsible for this change of personality structure. In male institutions, teachers, workers and senior students have dominating behaviour, which results in aggressive behaviour and increased feeling of insecurity. Contary to this in female institutions it is found that interpersonal relationship was more affectional relationship was more affectionate and cordial. The results of the present study maintained that in tribal children Affectional Deprivation has Sex-differences.

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EXPERIMENTAL PSYCHOLOGY

: A DYNAMIC APPROACH

By

Dr. Govind Tiwari & Dr. Roma Pal

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Asian Journal of Psychology and Education
1985, Vol. 15, No. 2, Page 15–18

Roles of Scholastic Achievements and School Backgrounds in Insecurity

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10 first divisioner, 10 second divisioners and 10 third divisioner students studying in class XI were randomly selected from Government Intermediate Colleges. Same number of students belonging to various groups were also randomly selected from private Intermediate Colleges. Duncan's range test separately run among first second and third divisioner of Government Intermediate Colleges and Private colleges showed insignificant differences among the mean insecurity scores of various groups. t-test applied between first divisioners, second divisioners and thira divisioners of Government Intermediate colleges and Private Intermediate colleges showed insignificant differences between the groups.

INTRODUCTION

According to Maslow (1952) security is synonymous to mental health. To Fischer (1949) the feeling of insecurity, anxiety and rigidity lead to maladjustment. Jammur and Singh (1973) obtained a correlation of ·89 between insecurity and neuroticism. Satyavathi and Indira (1977) found a correlation of ·89 between security-insecurity and adjustment for normals and ·77 for neurotics. Alam, Srivastava and srivastava (1980) found that subjects having inferiority and insecurity feelings are more punctual than those having average or low levels of inferiority and insecurity.

KaKKar (1965) is of the opinion that children should receive the optimum satisfaction of their psychological needs, e.g., feeling of security, curiosity, achievement and recognition etc., because such satisfaction is necessary for complete living and for well rounded personality adjustment. When the factors that make for security are lacking, the inevitable is the manifestation of symptoms of mental ill health.

The above discussion shows that insecurity is a factor which leads to maleadjustment and mental ill health. It, therefore, becomes necessary to investigate the roles of academic achievement in the development of insecurity feeling. The present study is an attempt in this direction. In this study, first divisioners, second divisioners and third divisioners have been taken as three levels of scholastic achievement.

Most of the times insecurity also develops because of faulty child pearing practices bad social backgrounds. Governments Schools and Private schools surely have different administrative backgrounds and curricular as well as co-curricular facilities. Hence the values nurtured by them may also be different. Thus, because of the difference in the two types of schools, the insecurity in the students of these schools may also be different. Hence in the present study two types of school backgrounds, viz, Government schools and private schools have been taken and the difference between the insecurity of students of two schools have been investigated.

METHOD

Sample : 10 first divisioner, 10 second divisioner and 10 third divisioner students studying in class XI were randomly selected from Government Intermediate colleges and 10 first divisioner, 10 second divisioner and 10 third divisioner students studying in class XI were also randomly selected from private Intermediate colleges of Pithoragarh city (U. P.). The total marks obtained by the students at high school examination conducted by secondary Board of Education, U. P. were taken as criteria: Students securing 60% and above marks were taken as first divisioners, 59% to 45% were taken as second divisioners, 44% to 33% marks were taken as third divisioners. However no student securing above 70% marks was included in the study. The socio-economic background and age of the subjects in all groups were almost same. Equal number of male and female subjects were included in all groups.

Tool :

Pati's (1976) inferiority and insecurity questionaire was administered to the subjects to find out their insecurity scores. This is a 'yes' and 'no' type questionaire and the marks to each item endorsed by the subjects are assigned according to the scoring schedule of the questionaire given in the manual.

Results

Mean in security scores of third, second and first divisioners of Government Intermediate colleges and private Intermediate colleges were calculated separately and Duncan's range test (Duncan, 1969) was applied to find out significant difference among the mean insecurity scores of the groups.

Table-1

Showing Duncan's range test run among the mean insecurity scores of first, second and third divisioners of Government Intermediate colleges :

Groups

III Divisioners	II Divisioners	I Divisioner
53·05	53·67	50·81*

* The line under means indicates insignificant difference among the means.

The above table shows that the three groups of subjects of Government Intermediate colleges do not differ significantly from each other in their mean in security scores.

Table 2

Showing Duncan's range test run among the mean insecurity scores of first, second and third divisioners of Private intermediate colleges :

Groups

II-Divisioners	III Divisioners	I Divisioners
47·89	49·02	54·74

Table 2 reveals that the three groups of subjects of Private Intermediate colleges also do not differ significantly from each other in their mean insecurity scores.

t-test was applied to find out significant difference between the mean insecurity scores of first, second and third divisioners of Government Intermediate and Private Intermediate Colleges.

Table-3

Showing the results of t-test

Government Intermediate College

		I	II	III
Private Intermediate College.	I	0·608		
	II		1·12	
	III			1·36

With 18 df t-value needed to be significant at ·05 level=2·10 (refer to Garrett, 1969.)

A look over table-3 revels that t-values of none of the comparisions is significant.

DISCUSSION

Table 1 and 2 depicts that second divisioners of Government Intermediate Colleges and Private Intermediate Colleges have obtained the highest mean insecurity scores and first divisioner have obtained least mean insecurity scores. Third divisioner fell in between the two groups with regard to their mean insecurity scores. But the means did not differ significantly with each other. It means that no important role is played by levels of academic achievement in the development of insecurity.

Table 3 shows that values of t for first divisoners. Second divisioner and third divisioner of Government Intermediate Colleges and Private Intermediate Colleges are ·608 1·12, and 1·36 respectively. None of the values of is significant at ·65 level of significance. It means that school backgrounds do not play important roles in the development of insecurity.

The findings of the present study, thus, lead us to conclude that neither different levels of scholastic achievement nor different school backgrounds play important roles in the development of insecurity feeling among students.

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Asian Journal of Psychology and Education
1985, Vol. 15, No. 2, Page 9–22

"A Study of Realtionship Among Teaching Efficiency, Attitude Towards Teaching Profession and Academic Achievement of B. Ed. Students"

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Mrs. Nita Gupta & Dr. Y. K. Gupta

INTRODUCTION

Education helds the goden key to human progress and the teacher is the central figure in the process of education. If he is efficient and conscientious we can be confident about our nation's future. But if he is half hearted in his job he can not deliver the goods expected of him. One thing that we can do in this direction is to select the right type of persons for training as teachers. Unless a person has a genuine desire to serve his nation by becoming a teacher, he can not have favourable attitude towards his prespective prefession.

It is also believed and it appeals to our commonse too, that a person having better and higher academic qualifications stands greater chances to benefit from training for a profession. In other words quality the of academic achievement is related to corresponding success and efficiency in a profession, particularly teaching which is specifically academic in nature. With these considerations in the mind it was deemed appropriatet o investigate if academic achivement and attitude had nothing to do with teaching efficiency so that, if they were necessary, we could devise ways and means to test them before admitting the trainees to a training college.

METHOD

Descriptive Survey Method.

Tools :

(1) Attitude Inventory—By Dr. S. P. Ahuliwalia of Banaras Hindu University, Varanasi.

(2) Teaching Efficiency Scale-Dr. C. R. Deva of Aligarh Muslim University, Aligarh.

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* All the correspondence should be made by Y. K. Gupta, Lecturer, Deptt. of Education, Hindu College, Moradabad. 244001.

Records :

Academic Achievement-Divisions obtained by the Student-teachers from High School examination onwards.

Sources of Data :

The data was colleeted from student-teachers of two training colleges namely, Tika Ram Girls College and D. S. College, Aligarh.

Sample :

(a) Type-Purposive.

(b) Size-129 Women and 94 Men=223 student-teachers of the B. Ed. class.

Hypothesis :

(1) There is positive relationship betwen the Attitude towards Teaching profession and Teaching Efficiency.

(2) There is positive realationship between the Attitude towards Teaching profession and Academic Achievement.

(3) There is apositive relationship between Teaching Efficiency and Academic Achievement.

(4) There are significant differences in the Teaching Efficiency, Academic Achievement and Attitude towards Teaching profession of male and female teachers.

Objectives :

(1) To find out the degree of relationship between Attitude towards Teaching profession and Teaching Efficiency.

(2) To find out the degree of relationship between Teaching Efficiency andAcademic Achievement.

(3) To find out the degree of relationship between Attitude towards Teaching profession and Academic Achievement

(4) To find out if there existed significant differences between Aititude towards Teaching profession, Teaching Efficiency and Academic Achievement of male and female teachers.

Delimitations :

(1) The study was confined to only two training college of Aligarh City, namely Tika Ram Girl's College and D. S. College.

(2) only 223 students-teacher were included in this study, out of which 129 were female and94 male.

Analysis and Interpretation :

The collected data was analysed. The following statistical tools were used :—

(a) Means.

112297

(b) Standard deviations.

(c) Coefficient of correlation between the factors.

(d) C. R. values and their significance at ·05 level. The results obtained by the above satistical tools were interpreted and each hypothesis was tested one by one. The achievement of the objectives formnlated was also evaluated.

Findings :

(1) There is no relationship between attitude towards teaching profession and teaching efficiency in male and female teachers

(2) There is no interrelationship between attitude towards teaching profession and academic achievement in both the sexes. However, their trends are in the positive direction.

(3) Academic achievement does not have any relationship with teaching efficiency irrespective of sex differences.

(4) Sex does not play any role in respect of the variables (achievement, attitude and teaching efficiency) studied in this study.

Suggestions For Further Study :

(1) The Present study was taken to test the tentative hypotheses. On the basis of this study there could not be accepted. However, one thing seems to very clear that there are some factors definitely responsible for teaching efficiency. For this study only two variables, namely, academic achievement and the attitude were studied and these two are found not to be positively correlated with teaching efficiency. Hence further study may be planned and carried out to study the factors which may be responsible for the betterment of teaching efficiency, (namely, adjustment, personality I. Q. etc).

(2) The study can be repeated with other tools and a bigger sample from other training colleges also and thus may give more vailed and reliable results.

Limitations :

(1) The present study was conducted on a very small sample of only 223 student teachers of two local colleges. Hence we can not very much rely on the result, this is clear from the fact that the findings of this study are not in consenance with the results of the similar other studies.

(2) There might have been the effect of personal bias in the evaluation of student teachers by their supervisors.

(3) Due to time limit other tools like Intervisw interest inventory, personality test, and adjustment inventory etc. could have been administered to make the study more useful and reliable.

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AGRA-2

Asian Journal of Psychology and Education
1985, Vol. 15, No. 2, Page 23–26

Educational Programmes of Doordarshan

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INTRODUCTION

Science has gained world wide recognition in almost all the field of our life and every country leading fast towards science research work in a revolutionary manner. The idea underneath is to surpass each other in providing case and comforts besides superiority, dignity and confidence. Bearing in mind the scientific fact that science is an insepearable and is a must in day to day activities of our life and also in the wake of revolution in education.

The role of television in the developmental support communication, as well as for mass education, has been well established. Our experience of SITE (Satellite Instructional Television Experiment) in 1975-76. has indicated that acceptance of community TV was found to be quite high in rural areas. It also emerged as an important factor in breaking community barriers. It could, therefore, he safely concluded that multiplication of Community TV in each village would generate an unprecedented force paving the way for a desired social change.

Historical Background of Doordarshan

Television was launched in India with the opening of Doordarshan Kendra. Delhi on 15 September 1959. It was experimental in nature and its scope limited to imparting social education. Until March, 1976. Television, as a medium, functioned as a part of the Directorate General, All India Radio. On 1 April 1976 an independent Directorate was set up for Doordarshan so as to give a greater momentum to the efforts for development and expansion of Television service in the country. The seventies saw rapid and major expansion of Television. Doordarshan Kendra, Bombay was commissioned in October, 1972 and Doordarshan Kendra, Srinagar in January, 1973. Subsequently Doordarshan Kendras were set up at Calcutta, Madras, Lucknow, Amritsar and Jalandhar and relay transmitters at Mussorie (for Delhi) (Pune for Bombay), Kanpur (for Lucknow) and Bangalore (for Bombay/Madras). Thus, during just over two decades, Doordarshan has expanded to cover more and more areas and to put out a varied programme fare in its transmission, including direct telecast of important national and international events. During 1982-83, interim set-ups were commissioned at Nagpur under the INSAT scheme and at Panaji to relay programmes from Bombay., Low power (100 Watts) relay transmitters were commissioned at 20 places in the country for the telecast of the IX Asian Games. At present TV services available to about 80% of the country's population, apread over about 85% of its area What is significant is that practically every State/Union Serritory capital is now covered by Doordarshan's network which also provides service to 53, 884 villages in the country. During the year, the number of licensed television sets is estimated to have gone up to over 20 lakhs of which about 1½ lakhs are colour television sets.

The high lights of this year's activities have thus been the marked expansion of television network, introduction of area-specific rural and educational television service via satellite (INSAT) in selected States, introduction of a National Programme service utilising microwave links as well as satellite and commencement of colour transmissions in the context of television coverage of the IX Asian Games.

Insat (Indian National Satellite)

Following the success of SITE, Government of India approved the proposal for the first generation multipurpose, Indian National Satellite (INSAT) system of her own in mid 1977. Accordingly, INSAT IA was launched by a NASA (National Aeronautical Space Administration) Delta booster rocket on April 8, 1982 which become operational on 15th August, 1982 Unfortunately, it was declared unusuable on 6th September, 1982 mainly due to depletion of Satellite fuel.

INSAT IB is similar to INSAT IA and is scheduled to be lauuched on August 30, 1983 from cargo hold of the space shuttle 'Challenger' at Kennedy Space Centre in Florida (USA). It is likely to become fully operational by mid October, 1983. Once INSAT IB reaches its 36,000 KM. high geostationery orbit above the earth at 74^0 East longitude, it will provide Telephone, Television and other forms of communication services throughout India via 12 Channels on 'C' band frequency. Two extra powerful channels will provide direct broadcast from the Satellite to small home antennac in rural areas.

INSAT IB is a unique joint venture of the Department of Space (DOS), Posts and Telegraphs (Ministry of Communications), Metecsological Department (Ministry of Tourism and Civil Aviation), Doordarshan and All India Radio (Ministry of Information and Broadcasting). While the DOS has the responsibilities of hardware establishments, operation and maintenance of space segment, other concerned departments have been entrusted with preparation of their respective ground segments. For example, Doordarshan plans and produces television suftware for the rural communities, as well as for other target groups. Govt. of India has constituted a high level committe of secretaries, known as the INSAT Coordination Committee (ICC) which looks after interagency coordination operation phases of the during implementation and system.

Insat Television

Through INSAT IB, in addition to nation-wide television coverage in one step, it will also be possible to provide national networking of all the existing transmitters in order to facilitate programm exchange between different Doordarshan Kendras.

Thus, INSAT Television has got two distinct features :

(i) Direct Telecast, and
(ii) Nation-wide Net-working using existing terrestrial transmitters.

With this strangement important events will be covered and distributed live to all parts of our country.

The major advantage of this system, however, will be to Provide television service to the remote rural and backward areas of the country where developmental effort requires mass media support.

Coverage

Under INSAT, specific clusters in six states : Andhra Pradesh, Bihar, Gujarat, Maharashtra, Orissa and Utter Pradesh, have been identified for coverage and have been selected on the basis of :

—Backwardness of areas,
—Availability of suitable physical and developmental infrastructure, and
—Utilisation of existing television programme production facilities.

Three districts in each State have been selected: They are as follows :

State	District
1. Andhra Pradesh :	Rangareddy
	Mehboobnagar
	Kurnool
2. Orissa :	Dhenkanal
	Sambalpur
	Bolangir
3. Maharashtra :	Nagpur
	Bhandara
	Chandrapur
4. Bihar	Ranchi
	Palamau
	Singhbhum
5. Gujarat ;	Rajkot
	Junagadh
	Jamnagar
6. Uttar Pradesh :	Basti
	Gorakhpur
	Azamgarh

The selection of these clusters has been made in such a way that widest possible range of experience from the projects in different cultural and linguistic settings would be obtained for future expansion in other parts of the country.

The Immediate Coverage

Initially, in the first phase in Orissa and Andhra Pradesh, rural communities in 800 villages will receive programme directly from the Satellite with the help of direct Reception Sets (DRS) besides the VHF Sets covered by transmitters at Hyderabad and Sambalpur. In addifion, VHF Sets covered by terrestrial transmitter at Nagpur will also receive programme.

In the second phase i. e. by August 1984, terrestrial transmitters will be installed at Rajkot (Gujarat), Ranchi (Bihar) and Gorakhpur (Uttar Pradesh). The programms fed through Satellite will be received by 300 DRS in each States as well as VHF Sets in the selected districts. The DRS Service in Maharashtra will also start functioning by this time.

In all 2000 DRS and 2000 VHF Sets will be installed in 6 selected States for community viewing in rural areas in the current Sixth Five Year Plan.

In the next one and a half year, the country will be having a large number of High Power Transmitters (HPTS) and Low Power Transmitters (LPTS) installed for the telecast and relay of TV programmes (180 Transmitters in all). Keeping this expansion in view, it has been decided that one of the two S-Band transponders available with INSAT IB should be exclusively used for national networking and the other one for area specific and ETV programmes.

Instructional Objectives

The Instructional Objectives of INSAT Television cover the areas of agricultural productivity, health-hygiene, family welfare, formal and non-formal education, national integration, etc. In persuance of the objectives, the thrust of the specific programmes would be :

—To provide developmental instructions in support of extension methodlogies in the field of agricultural productivity.

—To stimulate participation and invalvement in extension activities which will directly benefit the rural people, particularly the weaker and the underprevileged sections.

—To provide instructions for better public health and hygienic living, including messages on family welfare.

—To move away from curriculum oriented approach, emphasize on direct teaching and aim at improving quality of education in classrooms as well as through teacher training programmes.

—To emphasize on science education in order to promote scientific temper.

—To help promote social justice, and

—To stimulate public interest on news and current affairs, games and sports and other important events.

Educational Programmes

Doordarshan Kendra, Delhi in cooperation with the Ford Foundation and the Directorate or Education, Delhi Administration began regular transmission of education TV (ETV) programmes way back in 1962. The E. T. V. project, aimed at supplementing the efforts of the teachers to strengthen the educational content of the lessons in Physics, Chemistry, Mathematics History, English etc., has proved successful. E. T. V. programmes have been expanded. The lessons are telecast as per the curriculum developed by the respective State Governments. Doordarshan Kendras transmitting E. T. V. programmes are Delhi, Bombay, Srinagar, Madras, Jaipur, Raipur Muzaffarpur and Sambalpur. The duration of the programme, However, varies from Kendra to Kendra.

The programme will be broadcast daily for 85 minutes for each cluster ; 45 minutes of transmission in the morning hours and 40 minutts in the evening besides the 90 minutes of national programme. The morning 45 minutes will be devoted to school education (ETV). The break-up of this duration will be : 20 minutes for children between 6-8 years ; 20 minutes for children between 9-12 years and rest 5 minutes for change over from one lesson to the other. Once a weak, a seperate programme for hints to teachers will also be telecast. Presently these programs are being produced jointly by Doordarshan and Centre for Educational Technology (CET) under the Ministry of Education. Ultimately the entire responsibility of planning and production of these programmes will be entrusted to CET.

The evening 40 minutes of area specific programme will be produced by Doordarshan with the active help and participation of various user Ministries like Food and Agriculture, Rural Development, Health and Family welfare, etc., The main focus as mentioned earlier, will be on agriculture, family welfare, health and hygiene, formal and non-formal education ; besides general entertainment and weather forecast. Topical programmes like news and current affairs will be covered under National Programmes. The programms will be area specific, relevant to the prevailing culture, and in co-relation with audience research input. It will be primarily based on the needs and requirements of the local people, determined and assessed through specific studies on target audience.

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Asian Journal of Psychology and Education
1985, Vol. 15, No. 2, Page 28–32

Social Background of Women Students : (A Study in a Situation of Higher Education)

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The present paper is part of a wider study on higher education among women. In the present study the social background of women getting higher education, that is, education at university level has been analysed. The social background is taken in its comprehensive meaning including economic, rural-urban residence, caste, and family. As a matter of fact the stratification pattern prevalent in a community determines to large extent a blew-print of education. It fact, the needs of the community determines the structure of education. With this understanding of the relationship of society and education we have discussed the social background of women studying at university level.

For the present study women students residing in the district of Udaipur, Rajasthan have been taken up for study on the basis of purposive sample. The girl students role in the academic session 1982-83 consisted of 1660. Out of this population 500 women students have been taken as sample for study, the sample being 30·1 percent.

Data have been collected by the administration of schedule, though case studies have also been made to gain insight in the problem.

Students and their Rural Urban Residence

It is interesting to know the rural urban residence of the family of students to find out as to who receives higher education in terms of this rural urban habitation. The benefits and opportunities of higher education are advanced by the state and the voluntary agencies for the welfare of all the segments of society. The question is : Who reaps the benefit ? The data collected by us reveal very interesting information.

A break up of the 500 students according to the city revealed that 83 percent of the students came from the urban sectors. These sectors included the city of Udaipur and the centres of other states and the countries. The students came from other states such as Delhi, the Punjab or the Southern Indian States, namely Andhra Pradesh and Kerala. They all came to this city for admission to courses in Agriculture, Home Science and Teachers' Training. The students coming from Africa and the neighbouring islands have craze for getting their education at Udaipur. They come to this place even for natural sciences and liberal education. The girls, who are foreigners, reside in the university or college hostels.

The rural population of the girls receiving higher education comes to 17·0 percent. Among these students are included the students coming from the neighbouring districts such as Dungargur, Banswara, Chittorgarh and Bhilwara. Actually these district border the district of Udaipur and that is why they float here attacted by the higher education facilities available here. These students are rural in their habitation and they find it convenient and economic also to come to Udaipur city.

It must be observed that a large number of girls taking higher-education belong to the city. On the other hand, the population residing in villages is more than 80 percent. The benefit of higher education, as the data indicate goes, to the urban students. Those who contribute the major bulk of the general population, are deprived of the facilities of higher education. The data are given below in Table 1 (a) and 1(b).

High Caste Hindus and Women's Higher Education

We have tried to analyse our field data in terms of the caste belongingness of the students of our sample group. The castes have been distributed by us into five categories, namely, higher castes, intermediate castes, scheduled castes, scheduled tribes and other groups. The categorisation of castes is purposive and serves our research ends.

Table 1 (a)

The Permanent Place of Residence of Students Father's Family according to city and Districts

Place of Residence	Percentage
Udaipur city	64·8
Udaipur District (Rural)	8·2
Dungarpur district (Rural)	1·6
Banswara district (Rural)	1·2
Bhilwara district (Rural)	1·8
Chittorgarh district (Rural)	1·8
Jodhpur district (Rural)	·6
Jaipur district (Rural)	1
Kota (Rural)	0·8
Other States	
Delhi	3·2
Punjab	1·2
Hariyana	0·6
South Indian States	3 8

Other Country	3
Africa-cities	2
Africa-towns	3
Morisis	1·4
Indonesia	

Table 1 (b)

Rural Urban Distribution of the Students

	Percentage
Rural	17·0
Urban	83·0
Total	100·00

The caste-wise distribution of women students given in Table 2 shows that only a very few students come from the lower segments of the society. Out of 500 students 37 percent students belong to the Baniya caste, 27 percent to the Brahmins and 11 Percent to the Rajputs. All in all, women's higher education is restricted to 75 percent of the twice born castes, that is, the Brahmins, the Baniyas and the Rajputs. The Rajuputs however, have a very meagre share (11 percent) in getting higher education. This can be explained by the fact that the Rajput womon observe 'Purdah' and they find it difficult and perhaps below their dignity to mix and move with the commoners in the college. Recently there has come some awakening among the Rajputs to discard Purdah. The meagre involvement of the girls in the higher education is due to this awakening.

If we analyse the data caste and faculty wise it will be found that the Baniya castes have predominance in all the faculties, except agriculture, where they will be found conspicuously missing. It would not be wrong to say that right from the liberal education to the professional one the Baniya women dominate higher education. The intermediate castes leg behind in this respect. Among these castes, the Khatries (4·0 percent) and the tambolis (3·4 percent) have some involvement in women's higher education. The Telis (a caste of oil pressures and the Lohars do not send their women for higher education. The absence of these castes in the field of higher education is due largely to the fact that the castes profess their traditional occupations, wherein women have something gainful to contribute. The Khatri and the tamboli women come forward for higher education because their traditional occupations have declined due to the impact of modernisation.

In our stratification pattern the weakest of the weak are the scheduled castes and scheduled tribe. They deserve a preferential treatment, on a priority basis. Our data in this area show that no women belonging to the scheduled castes is taking higher education of any kind in the colleges under our study. It is not that there are no Mehtar, Chamars or Balais in the district. The fact is that even beyond the sample group, in the colleges of the district, there is not a single woman student from the scheduled castes getting higher education. This reflects upon the inadequacy of our country's development efforts of more than three decades. One would like to ask : when there are facilities for higher education, why do the scheduled castes women not come forward to get it ? The question is appropriate. It can be partially answered also. It is the poor economy of the Harijans which lies at the root of the problem. Admittedly, there are scholarships and other incentives for women's higher education among Harijans, but the problem is if the women are spared to enter the corridars of the college, there is substantial loss of money in terms of wages earned by folk. The scholarships and the incentives do not compensate for the loss of income which a Harijan family is likely to suffer. Besides this economic consideration, a few other explanations may also be given. The Involvement of scheduled tribes in higher education in 4 percent only. However, the trend is encouraging. The tribal women getting higher education have to move to city and towns and reside in hostels. Despite these hardships the tribal women have forward to take higher education.

Students and their Family Educational Level

Higher education of women is related to the educational environment of the family. For instance, if there is a tradition of education in a family, it motivates the coming generations to take education. Taking educational level of the students' family as a variable we have classified the students' families into a number of educational levels : (i) educational level of father, (ii) educational level of mother, (iii) first brother, (iv) second brother, (v) first sister (vi) second sister, (vii) husband and (viii) inlaws. The classification of the families could have been extended further by adding the number of brothers and sisters, but for our purpose we have restricted it to two brothers and two sisters only.

When we look at the higher education of our sample group it is found that more than half of the girls are motivated by the educational level attained by their first sister. The motivation is when my elder sister is educated why should I not go to college ? Another infiuence which is found in the family is that of brother. I we include the first and the second brothers it will be found that 67.6 percent students of our sample are induced to go in higher education because of the education of brothers

Table 2

Students According to their Castes and Faculty

Castes	Arts	Commerce No.	Sci. No.	Home Sci. No.	Law No.	Agriculture No.	Edu. No.	Ayurvedic No.	Medical No.	Social work No.	Number	Percentage	Number	Percentage
Higher Castes														
Brahmins	35	2	21	20	1	1	37	1	15	2	135	27·0	–	—
Bariyas	50	2	40	33	2	—	30	1	25	2	185	37·0	–	–
Rajputs	15	–	15	7	2	—	10	–	5	1	55	11·0	375	75
Intermediate Castes														
Darji	2	—	4	—	—	—	1	—	–	—	7	1·4	–	—
Teli	–	—	—	–	–	–	–	–	—	—	—	—	—	—
Tamboli	6	—	9	—	—	–	2	—	—	—	17	3·4	—	—
Kumhar	–	—	—	—	–	–	–	—	–	—	—	–	—	—
Sunar	2	—	2	—	—	–	1	–	—	—	5	1·0	—	—
Khatri	3	1	13	1	—	—	1	–	1	—	20	4·0	—	—
Lohar	1	–	–	–	–	–	—	—	—	—	1	·2	50	10
Scheduled Castes														
(Bhangi, Chamar Balai)	–	–	—	—	—	–	—	–	—	–	–	—	–	—
Scheduled Tribes														
Other groups	6	–	12	—	—	—	2	—	—	—	20	4·0	20	4·0
(Muslims, Bohras)	20	–	24	4	1	1	1	–	4	–	—	—	55	11·0
Total	140	5	140	65	6	2	85	2	50	5	500	100	500	100

Asian Journal of Psychology and Education

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PUBLISHED BY

Agra Psychological Research Cell

TIWARI KOTHI, BELANGANJ, AGRA-282004 (INDIA)

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Asian Journal of Psychology and Education
1985, Vol. 15, No. 3, Page 1–8

Understanding the Prisoner's Dilemma and Its Public Policy Implications*

Miron Mushkat**

The "Prisoner's dilemma' is, perhaps, the most intriguing social situation worked out by game theorists. It is rich with public policy implications to boot. Unsurprisingly, therefore, the dilemma has attracted much attention on the part of concerned philosphers. Be that as it may, the philosophical thrust into this highly problematical area has so far been less than successful. Somehow, in the process philosophers have managed to distort the true meaning of the dilemma by trying to explain it away as a simple case of social conflict arising out of lack of interpersonal trust. They have equally failed to realise the potential of the dilemma as a valuable technique for social control. The article aims at setting right these errors of commission and omission; the original meaning of the dilemma is restated and its corresponding (both hidden and unhidden) public policy implications are clarified.

The notion that the desire to maximise benefit and minimise cost underlies the great part of human decisions has played a significant role in the development of social theory. In fact, there can be little doubt that utilitarianism, in its various forms, is one of the most influential contemporary social philosophies. Until as late as the Second World War, however, the mainstream of utilitarian thinking had tended to revolve around the highly simplistic monadic model of an individual acting in splendid isolation from his social environment. Von Neumann and Morgenstern, in their critical account of Pre-Second World War utilitarianism, have aptly referred, in an economic context, to this model as the "Robinson

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* Although this study is, in a way, an extension of the author's enquiry into the determinants of the Arab-Israeli arms race, the conclusions are by no means bound up with any particular domain of public policy, geographical area, or time period.

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Crusoe" model of a simple economy and have contrasted it with a social exchange economy that obviously is the reality of the day. According to them

> "The difference between Crusoe's perspective and that of a participant in a social economy can be...illustrated in this way; Apart from those variables which his will controls, Crusoe is given a number of data which are dead; they are the unalterable physical background of the situation...Not a single datum with which he has to deal reflects another person's will or intention of an economic kind based on motives of the same nature as his own. A participant in a social exchange economy, on the other hand, faces data of this last type as well : they are the product of other participants' actions and volitions...His actions will be influenced by his expectation of these; and they in turn reflect the other participants' expectation of his actions."

Not contenting themselves with mere criticism, Von Neumann and Morgenstern have proceeded to incorporate the idea of the interaction of rational agents into the basic utilitarian framework. Finding convenient and suggestive models of interactive decision-making in the form of certain simple games, they have designated this particular brand of utilitarianism "game theory." Their refinements, albeit primarily oriented towards economics, have also had a profound impact on political, psychological, and Sociological Writings. Von Neumann and Morgenstern and their intellectual disciples in the social sciences, however, have run into some serious conceptual (not to speak of practical) difficulties. Specifically, while proving a very powerful theorem concerning the simplest type of games, they have pinpointed the apparently insuperable obstacles in the way of any comparable extension of the results to more complex—and hence more lifelike—situations.

The fundamental theorem shows thaf in two-person games whose payoffs add up to zero (i. e., "zero-sum games"), there is a definite and stable outcome which is the best either player can hope for, assuming that his opponent plays with maximum rationality. A somewhat analogous result, with a greatly broadened concept of stability can be proved for many-person zero-sum games. The snag, of course, is that when the sum of outcomes is not zero—that is, when there is either a deficit or surplus of value—then, in general, no rational and stable solution of the game can be easily discerned.

Bargaining is, perhaps, the most tangible example of social activity which has this non-zero-sum character. Thus, where two persons, A and B, are attempting to strike a bargain on the sale of some commodity, C, each will have an upper and lower limit which he is willing to give or take for C. Within those limits, each considers it to his advantage to consummate the transaction. If two pairs of limits overlap, there will be room for bargaining. Now the intriguing thing about this kind of game is that although A and B are bargaining against each other, they actually have an important area of common interest; they both want a deal, anywhere within the overlap of their price ranges, rather than no deal at all. Put another way, it is rational for them to co-operate in avoiding the breakdown of the bargaining, while simultaneously jockeying for a better deal within the bargaining range.

Such situations have been described as "bargaining games" or "no-zero-sum non-co-operative games". They have obvious analogies in many areas of human affairs. The conflict between the Soviet Union and the United States, for instance, can be viewed as a bargaining game in which both parties seek to avoid nuclear war, while at the same time each attempts to aggrandize its relative power position at the expense of the other. The complexities and pradoxes of interactive decision-making in non-zero-sum non-co-operative situations can be best illustrated by the famous "prisoner's dilemma" which is usually accorded a prominent place in the literature on game theory.

In essence, the dilemma arise from the following predicament ; Two criminals are caught and accused of a very serious crime, carrying with it a penalty of life imprisonment. Unfortunately for the police, there is a dearth of evidence against them and so the State Attorney tries a trick to break them down. He puts them in separate rooms and confronts each with a statement as follows : "If you turn state's evidence and your buddy doesn't, you will go free and he will get life. If you both confess, we will reduce your sentences to fifteen years each. If neither of you confesses, we still have enough evidence to and you away for a short term on a minor offence. Now don't imagine your Pal is going to keep his mouth shut, for he knows that if he does and you sing, he is sunk. So you might as well confess too and at least get the sentence cut down from life to fifteen years." If we let minus 30 be the value of life imprisonment, and plus 30 be the value of freedom, and minus 15 be the value of the fifteen-year sentence, and minus 3 be the value of the minor sentence, then the set of alternatives for each criminal looks like this :

	B	
	Don't Squeal	Squeal
Don't Squeal	−3 −3	+3 −30
Squeal	−30 +30	−15 −15

There are four possible outcomes ; both squeal, neither squeals, and either one or the other squeals while his buddy keeps quiet. The outcomes are shown at the intersections of these strategies. (The array of outcomes, or payoffs, is called a payoff matrix in game theory. The numbers can be taken as representing the relative weights which the two criminals attribute to the various possible outcomes). The dilemma is this : If A follows that looks like a rational policy, he will squeal, for he says to himself : If I squeal, then no matter what B does, I come out better than I would have by keeping quiet. If he does not squeal I get off free instead of a minor rap, and if he also squeals, I get fifteen years instead of life." B too reasons this way for it is assumed that they are equally rational. So both squeal, and as the diagram indicates, they both get fifteen-year sentences. Yet, a glance at the matrix reveals that if they both kept quiet, they could have gotten off with minor terms in jail. In other words, the apparently rational course of action does not maximise value, even though, stricitly speaking, that is supposed to be the definition of rationality.

As indicated, many situations analogous to the prisoner's dilemma present themselves in real life. Two rival powers, for instance, may be equally "safe" against each other if both disarm or both remain armed. The disarmed state, however, is cheaper, so that both would gain by disarming. Still, it is to each power's advantage to remain armed. The reason is that being armed against a disarmed adversary is ' clearly" an advantage, whereas being disarmed and facing an armed adversary is "unthinkable". Again, the trouble seems to be that it is advantageous for each power to arm irrespective of whether its adversary chooses to arm or disarm.

This basic characteristic of the prisoner's dilemma accounts for its reputation as the Achilles tendon of game theory. Be that as it may, it by no means undermines the notion "rationality" as traditionally explicated by decision theorists. Rather, the dilemma originates from circumstances in which, in the absence of communication and hence of making binding agreements, there is no way of rationalising the choice of action that, if taken by both players, benefits both. By the same token, it appears that in the context of non-zero-sum non-co-operative games like the prisoner's dilemma there are actually two concepts of "rationality" competing for attention, namely, individual rationality which prescribes to each player the course of action most advantageous to him under the circumstances, and collective rationality which prescribes a course of action to both players simultaneously. And it turns out that if both act in accordance with collective rationality, then each player is better off than he would have been had each acted in accordance with individual rationality.

Indeed, the situation has been known and intuitively appreciated througout man's history as a social animal. Prescriptions of conduct in accordance with collective rationality are emboded in virtually every ethical system. Such a prescription is explicitly spelt out in Kant's categorical system. It is incorporated in every disciplined social act (e. g., in an orderly evacution of a burning theatre, where acting in accordance with individual rationality—that is, trying to get out as quickly as possible—can result in disaster for all). It is puzzling, therefore, to find out to what extent has the true meaning of the prisoner's dilemma been disorted by contemporary social philosophers[9] —distortion that has adversely affected the process of methodically delving into its public policy implication.

The erroneous interpretation of the dilemma stems from mistakenly bringing in the element of trust. Thus, according to wolff: "The trouble is that each prisoner has to be able to trust the other not to pull a doublecross and get off scot-free by confessing."[10] And as he further elaborates: "That they are both better off trusting one another is clear, but what is not clear is that it is rational to trust."[11] In other words, it is argued that if only the two prisoners were able to trust each other not to confess, they might have ended by receiving a minor sentence; the corollary of this, undoubtedly, is that in order to make here the rational choice one has, will-nilly, to learn to trust.

The reason this is not clear, so contend the theorists at issue, has to do with the peculiar circumstances of the prisoner's dilemma. To put it more plainly, since A cannot predict with certainty how B will act, and *vice versa*, his choices in his effort to maximise value for himself spring from an assumption that B's two possible choices are equally probable. But if A had reason to be almost certain about B's choice, he would not be rational if he did not act in a way that would maximise value under condition of that known choice of B's. As a matter of fact, one of the points served by brigning game theory to bear on such an example, it is maintained, is to demonstrate that the alternatives may or may not be equally good depending upon what moves one expects the other player to make. Specifically, if A had good reciason to trust B (e. g , if they were "on the trick" ahead of time and had made an agreement about it) his rational move would be not to confess. To be sure, there is a risk involved. The point, though, is that deciding whether it is rational to trust, in this case, is not a decision to be reached by game-theoretic strategy appropriate to the example, but a decision to be made on the basis of data independent of the conditions of the game : If there" were no good grouuds for trusting the "apparently rational course" (confessing) would maximise value simply because the value of -3 would have been rejected as an impossible outcome; if, on the other hand, there were good grounds for trusting, not confessing would be the rational choice, simply because it does maximise value.

Unfortunately, as indicated, this subtle argumentation rests on rather shaky foundations. Contemporary social philosophy emphatically asserts that the problem is one of mutual trust. Yet, this is by no means so. I may, actually, have the most perfect confidence that my fellow criminal will never confess without in any way affecting the desirability of my confessing, Moreover, using the values given on the matrix, the motives for squealing are stronger when I know my accomplice will not ! The gain from squealing then is 33 ($30+3$; i. e. securing freedom and escaping a minor sentence), whereas the gain from squealing when my accomplice also does so is only 15 ($30-15$; i. e., escaping life imprisonment, but receiving a fifteen-year sentence) All in all, therefore, one prisoner's opinion about the probable behaviour of the other is completely irrelevant to his own decision, since his payoff will always be higher if he confesses.

Now insofar as public policy is concerned, the misintepretation of the prisoner's dilemma has led to an under emphasis on mutual trust as the key to the resolution of social conflict. Nearly two decades have been, so to speak, "wasted" by channelling the bulk of the research resources available towards the objective of identifying ways to foster mutual trust. By the same token, no serious attempt has been made to develop a comprehensive theory of rational cooperation (such a theory could suggest means to eliminate the conflict between individually and collectively desirable outcomes).14 to pinpoint ways to socialise players to induce incorporation of the welfare of others as an important element in their own preference function, and to generate ideas with a view to stimulating a more ingenious use of the law of contract. (If players could bind themsleves through an agreement not to confess there would be no dilemma. The state, and to a lesser extent the international "community", endeavour, by requiring payment of damages for breach of certain promises, to encourage mutually beneficial behaviour patterns in many areas of social interaction).

But in failing to grapple with the true meaning of the prisoner's dilemma, contemporary social philosophers have been more ,'guilty" of omission than error, with even more serious public policy implications. For in their obsession with the element of mutual trust, they have neglected to observe that, from the standpoint of society as a whole, as represented by the prosecutor and the code of law he is enforcing, the confession of the prisoners is rational (one can hardly expect game theorists to make this observation; after all, their mathematical training15 prevents them from speculating beyond the microcosm with which they are concerned). By deliberately putting the prisoners in the dilemma, the prosecutor is acting rationally. And if they follow their individual rationality, society as a whole will be better off than if they behave in a manner which maximises the value of their own little two-man society (i. e.. in accordance with collective rationality).

Indeed, it is gradually being realised that such situations are quite common and that the prisoner's dilemma is a valuable technique for social control. Thus, if some group in society could benefit at the expense of the rest of us, we may be able to contrive a prisoner's dilemma so that each of them will act in his/her own individual interst and, at the same time, make it impossible for the group to exploit society. The competitive market is a case in point. All the sellers of a given commodity could gain from higher prices, but each individual seller could gain from undercutting if the others raised their prices. The situation is a gigantic prisoner's dilemma The whole point of antitrust legislation is to keep the sellers in this dilemma, and much effort is invested by the businessmen in attempting to get out of it. Clearly, however, the dilemma serves a social purpose here, and there are probably many other areas where this form of social control would be useful. In the prisoner's dilemma, individual rationality clashes with collective rationality, but there may be a larger group, society as a whole, which will benefit from the situation. Social 16 and individual rationality may require action which from the standpoint of a limited group is irrational. This aspect of the dilemma has been largely overlooked, but may have much more importance than the clash between individual and collective rationality that has originally so distressed game theorists. It is time philosophers with genuine interest in public affairs gave the subject the attention it obviously deserves.

NOTES

J. Von Neumann and O. Morgenstern, *The Theory of Games and Economic Behavior* (Priuceton : Princeton University Press, 1947) P. P. 11 + 12.

In addition to *The Theory of Games and Economic Behavior* another work provided strong impetus to the development of game theory. This is : R. D. Luce and H. Raiffa, *Games and Decistions* (New York : Wiley: 1957). Game theory could be defined as a theory of rational decision in conflict situations. Models of such situations as they are conceived in game theory involve (1) a set of decision-makers called players (2) a set of strategies available to each player, (3) a set of outcomes, each of which is a result of particular choices of strategies made by the players on a given play of the game, and (4) a fet of payoffs accorded to each player in each of the possible outcomes. It is assnmed that each player is "individually rational", in the sense that his performance ordering of the outcomes is determined by the order of magnitudes of his (and only his) associated payoffs. Moreover, a player is rational in the sense that he assumes that every other player is rational in the above sense. The rational player utilises knowledge of other players' Payoffs in guiding his choice of strategy, because it given him information about how the other players' choices are guided. For a succicnt introduction to the rudiments of game theory see ; J. D. Williams, *The Complete Strateiest* (New York : McGraw-Hill. 1954); A. Kaufmann, *The Science of Decision Making* (London : Weidenfeld and Nicolson, 1968); S. Kassouf, *Normative Decision Making* (Englewood Cliffs Prentice-Hall, 1970); D. W. Miller and M, K. Starr, *The Structure of Human Decisions* (Englewood Cliffs Prentice-Hall, 1971) ; R. R. Singleton and W. F. Tyndall, *Games and Programs* (San Francisco : Freeman, 1974) ; M. F. Rubinstein and V. Pfeiffer, *Concepts in Problem Solving* (Englewood Cliffs : Prentice-Hall, 1980).

See in Particular : M. Shubik, ed., *Readings in Game Theory and Political Behavior* (New York : Doubleday, 1954); A. Raport, *Fights, Games, and Debates* (Ann Arbor University of Michigan Press, 1960); T. C. Sehelling, *The Strategy of Conflict* (Cambridge : Harvard University Press. 1963) ? H. R. Alker, *Mathematics and Politics* (New York : Macmillan, 1965) ; K. E. Boulding, *Conflict and Defense* (New York : Harper, 1969); M. Laver. *Playing Politics* (Harmondsworth : Penguin, 1981).

See in Particular : J. W. Thibaut and H. H. Kelley, *The Social Psychology of Groups* (New York : Wiley, 1958); S. Siegel and L. B. Fouraker, *Bargaining and Group Decision Making* (New York : McGraw-Hill, 1960); M. Shubik, ed., *Game Theory aud Related Approaches to Sociol Behavior* (New York : Wiley, 1964); I. R. Buchler and H. G. Nutimi, eds., *Gome Theory of the Behavioral sciences* (Pittsburgh : University of Pittsburgh Press, 1969).

See in particular : *Ibid,* Shubik, ed., *Game Theory and Related Approaches to Social Behavior*; P. M. Blau, *Exchange and Power in Social Life* (New York; Wiley, 1964); G.C. Homans, *Social Behavior* (New York : Harcourt, Brace, and Jovanovich, 1974).

This applies to mathematical sciences as well.

See in this connection : A. Rapoport and A. M. Chammah, *Prisoner's Dilemma* (Ann Arbor.: University of Michigan Press, 1965) ; T. Burns and L. D. Meeker, "Structural Properties and Resolutions of the Prisoner's Dilemma Game", in *Game Theory as a Theory of Conflict Resolution,* ed. by A. Rapoport (Dordrecht : Reidel, 1974), pp. 35-62.

A sound appreciation of the distinction between individual and collective rationality, or maximising egoistic versus social values, can be gained by reading : A. Rapoport, *Strategy and Conscience* (New York : Harper and Row, 1964) ; V. Held, *The Public Interest and Individual Interests* (New York : Basic, 1970).

See in this connection : R. P. Wolff, "Reflections on Grme Theory and the Nature of Value", *Ethics* 72 (April, 1962), 171-179; G. Thompson, "Game Theory and Social Values States", *Ethics*, 75 (October, 1964), 36- 9; V. Held, "Rationality and Social Value in Game Theoretical Analysis", *Ethics*, 76 (April, 1966), 215-220; G. Tullock, "The Prisoner's Dilemma and Mutual Trust", *Ethics*, 77 (April. 1967), 229-230; V. Heln, "On the Meaning of Trust" *Ethics*, 78 (January, 1961). 156-159; R. L. Birmingham, "The Prisoner's Dilemma and Mutual Trust", *Ethcis*, 79 (January, 1969). 156-158.

Wolff, "Reflections on Game Theory and the Nature of Value", p. 173.

Idid.

Clearly, in a practical situation there might be areas of uncertainty about the partner's choice. Nevertheless, this uncertainly, it is claimed, does not separate rationality, from maximising value. It simply presents problems for deciding what would be rational, and the reason it does is that it presents problems for deciding what values are worth-expecting and what values are highly improbable.

For a formal proof see : Birmingham, "The prisoner's Dilemma and Mutual Trust".

See in this connection ; F. Zeuthen, *Problems of Monopoly and Economic Walfare* (London : Routledge, 1930); J. F. Nash, "The Bargaining problem", *Econometrica*, 18 (April, 1950), 155-162; J. F. Nash, "Noncooperative Games", *Annals of Mathematics*, 54 (September, 1951), 286-295; J F. Nash, "Two-Pesson Coooperative Games", *Econometrica*, 21 (January, 1953), 128-140; R. B. Braithwaite, *The Thoery of Games as a Tool for the Moral Philosopher* (Cambridge : Cambridge University Press, 1955), J. C. Harsanyi : Approaches to the Bargaining Problem before and afte the Theory of Cames", *Econometrica*, 24 (April, 1956), 144-157, D. Gauthier, "Ratsonal Cooperation", *Nous*, 8 (March, 1974), 53-65 : M. Taylor, *Anarchy and Cooperation* (London : Wiley, 1976) ; M. Taylor, *Community, Anarchy and Liberty* (Cambridge : Cambridge University Press, 1982).

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A Study of Some Personality Dispositions in Mentally Retarded Children

Prakash J. Nagaich, N. K.** & Shrivastava, V. K.****

The problem of mental retardation is a challenge not only to a nation but to the entire human race. It is a concept very often applied loosely with a stigma attaches the particular individual. Much depends upon the social perception of the problem. One theory suggests that the possibilities of the subsequent development of the child have no relevanee to the conditions of his environment, but are predetermined from within by mental components he is born with. Soviet investigators, on the other hand, establish on the basis of their investigations that children of diverse temperaments easily devise individual methods of work depending upon their particular characteristics. Their development does not depend so much on their innate abilities.

What is Mental Retardation ?

Mental retardation is a constellation of syndromes. It is not a disease, although it may be the results of a disease. Based on current knowledge, more than one hundred causes of retardation have been identified. It may be caused by factors which affect the embryo or feetus during development or it may be the effect of some conditions during the birth process, shortly after birth, or during the child's early years of growth and development.

As a group, the mentally retarded are considered heterogeneous therefore, the nature and degree of retardation vary considerably. To date, no system has been devised to classify the degrees or levels of retardation, which may be acceptable to all professional disciplines concerned. The official classification of the American Association on Mental Deficiency (1960) uses intelligence test scores as its basis for categorising the degrees or levels of mental retardation (Beber, p. 57).

Degree of Mental Retardation

Level	Descriptive Term	Intelligence Quotient (I Q)
Level I	Profound	Below 20
Level II	Severe	20–35
Level III	Moderate	36–52
Level IV	Mild	53–68

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Personality Dispositions

There are many personality dispositions which are affected by faulty mental development. Many studies bear testimony to this fact (Castor & Cramwell, 1957 ; Heber 1959 ; Spitz & Lipman, 1961 ; Abel. 1945 etc.). The dispositions that have been considered in this paper are described in short as follows :

Hostility/Aggression : Hostility is an emotional (internal) reaction or feeling of anger, enemity or resentment directed toward another person, situation or oneself. It is expressed behaviourally (externally) in the form of aggression, as act which is intended to hurt some one or something, usually another person but sometimes oneself. Aggression may be manifested verbally in such forms as bickering, quarreling etc. Aggression may be revealed physically by fighting, hitting, kicking and biting etc.

Self-esteem : Self-esteem is a global, emotional evaluation of oneself in terms of worth. Positive feeling of self-esteem implies that a person likes or approves of himself, and perceives himself as being a person of worth or worthy of respect. Negative self esteem on the other hand implies that a person dislikes or disapproves of himself, perhaps feels inferior to others.

Self-adequacy. Self adequacy is an overall self evaluation of one's competence to adequately perform daily task. Positive feeling of self adequacy implies that a person feels as being a capable person, able to satisfactorily deal with his daily problems. Negative feeling of self adequacy on the other hand implies that a person feels that he is an incompetent person, unable to successfully meet or cope with the demands of day-to-day living.

Emotional responsiveness : Emotional responsiveness refers to a person's ability to freely and openly express his emotions, for example feelings of warmth and affection. Emotionally unresponsive or insulated people, on the other hand, are able to form only restricted or defensive emotional involvement. They may be friendly and sociable but their friendships tend to be impersonal and emotionally unexpressive.

In the present study, an attempt has been made to investigate into some personality dispositions as described above, among mentally retarded children.

Sample for this study comprised of 25 mentally retarded children from Chetna School for mentally handicapped located in Lucknow and 25 normal children in the age group 10 to 12 years. The control group of 25 subjects were matched with the experimental group regarding age, sex, socio-economic status, etc.

The data were collected by using an "Personality Assessment Questionnaire (PAQ) originally constructed and standardised by Prof. Ronald P. Rohner (Connecticut, U.S.A.) and adapted by Dr. Jai Prakash (Sagar). This questionnaire was administered to each of them, individually. It is a self reporting instrument designed to assess as individual's perception of himself with respect to personality characteristics.

RESULTS

Since the observations were made in different groups, the data of each group were considered on the basis of means and comparisons were made on the basis of *t*-statistics ;

$$t=\frac{M_1-M_2}{\dfrac{D-\dfrac{(D)^2}{N}}{N\,(N-1)}}$$

The following table shows the mean scores of both groups on "P A Q" and significance of difference :

Dispositions	Mean of mentally retarded	Mean of normals	Value of 't'	Level of significance
Hostility/ Aggression	18·48	13·28	8·00	·05
Negative Self Esteem	18·20	16·32	4·58	·05
Negative Self Adequacy	19·08	18·56	1·20	N.S.
Emotional Unresponsiveness	17·40	16·64	1·48	N.S.

N=25 in each group

DISCUSSION

Obtained results show that mentally retarded have scored higher in all personality dispositions on the negative side as compared with normals. Mean of mental retardates are also higher than normals. Significant difference has also been found in two personality dispositions namely, Hostility/Aggression and Negative Self-Esteem. Although, there is difference in the two dispositions also but it is not statistically significant. The results indicate that mentally retarded are found more hostile and aggressive. Negative self-esteem negative self-adequacy and emotional unresponsiveness were also observed in greater degree in the mentally retarded. They are rigid in comparison to normals and can't change or adjust their decisions in conformity with the society which has borne a feeling of being a burden for their parents and society.

Conclusions

Mentally retarded have an emotional (internal) reaction or feeling of anger, enemity or resentment directed toward another person, situation or oneself. Their dislike or disapprove of themselves are uncomfortable with themselves, are disappointed in themselves, perhaps feel inferior. They feel as an incompetent person, unable to successfully meet or cope with the demands of day-to-day living. They are emotional unresponsive and are able to form only restricted or defensive emotional involvement. They often have difficulty or are unable to give or receive normal affection in comparison with normals. This study is useful not only for academicians but also for clinical psychologists as with the help of obtained results proper planning of education and training of mental retardates may be possible.

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Asian Journal of Psychology and Education
1985, Vol. 15, No. 3, Page 13–16

Study of the School Climate in Relation to Administrative Style

Usha Belwal

Educational institutions are highly sensitive organsations, where inter-personal relations determine its climate. Argyris (1957) has defined it as the personality of school and measured it through the perceptions of students, behaviour and style of the administrator and reasulting job satisfaction of teachers. These interactional factors are assumed as basics of the personality organization of school.

Several studies have been conducted to understand the relationship between school climate and individual differences (Schneider and Bartelet 1968) : teacher moral (Pillai, 1974, Shelat, 1975, Frankling, 1975) ; Leadership behaviour patterns (Darji, 1975) ; teacher's attitudes (Tripathi, 1978). A host of studies like that of Clark (1960), Rao (1971), Barton 1961), are also avallable on School Climate.

Various explanations have been given in order to locate the central idea arround which School Climate revolves but the basic determining agent of School Climate, might be the Administrative Style. Thought it received very low attention from the researchers, yet it is interesting to note that Byle (1969) came to this conclusion after observing many Schools and analysing many research findings, that "Styles are more or less determined by the level of teacher's job satisfaction and students attitude towards the administration and administrative authority".

Thus, the role of administrator is highly significant Mahajan (1970) noted that entire school system failes or succed because of their failure or success in the role of the principals. (Sharma, 1972 and Shelat, 1975). Shelat and Sahshrabudhi (1979) noticed that the climate is depended on leadership behaviour of the principal. Gupta (1978) found sinificant positive relationship bvtween School Climate and all the dimensions of leadership behaviour.

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* The author would like to express deep sense of gratitude to Prof. M. P. Uniyal, Dean. Faculty of Education of Garhwal University, for his Guidance and valuable suggestions.

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Keeping in view, the above mentioned findings, it can be assumed that administrative style reflects the climate of school so School Climate, has been assumed to be the result of the interactions of the teacher's job satisfaction, students perception about the school styles of the administrator and their inter-personal interactions. Here in this paper an effort has been made to verify the fact whether different types of adiministrative style generates different types of School Climate or no ? To examine this following hypotheses were formulated to be tested :

1. There will be a significant difference in the administrative styles of principals.
2. There will be significant difference in School Climate of different type of administrative style.

DESIGN OF THE STUDY

Sample :

The present study was conducted on the sample of 36 principals and 470 regular students of corresponding secondary schools existing in Tehri Garhwal district. For the selection of sample purposive technique was applied.

Tools :

(a) A Scale of administrative style (A S S) developed by Uniyal and Belwal(1982) was used to assess the administrative styles of 147 ·Items, with yes/no response categories. The scale is structured on the basis of three variables i.e., Democratic style, Laiss ezfaire and Autocratic style of administrator.

(b) To analyse the school climate, a questionnaire of School Climate (SCDC) developed by Uniyal and Shah (1982) was used. It consisted of 84 Items.

Procedure :

A scale of administrative style was administered to the principals and their scores were grouped with the help of Quartile-Devation into three categories. The subjects who scored above 75% were named as democratic, those who scored less than 25% or under Q_1, designated as autocratic and the rests were designated in laissez-Faire category. In order to assess the administrative style a questionnaire of school climate was administered upon the students of corresponding secondary schools in Tehri Garhwal district. Thus on the basis of different types of administrative style, the scores were analysed with the help of Mean, S. D. and t-test with the objective to find out the significant difference between school climate on the basis of different types of administrative style.

RESULT AND DISCUSSION

The present study was conducted to study the school climate in relation to administrative style. In Table-1 we put the scores obtained for the three categories of administrative style for the whole sample i. e. 56 principals.

Table – 1

Showing Significant difference among the different types of administrative style.

Type of Ad Style	N	Mean	S, D.	't' value	df	Significance
DS	17	111 35	2·82	8 47	26	Significant*
LFS	11	102·54	2·64			
DS	17	111·35	2·82	11·01	23	Significant*
AS	8	92·62	4·41			
AS	9	92 62	4·41	5·66	17	Significant*
LFS	11	102·54	2·64			

* Significant at ·01 level.

The study of the Table No-1 clearly revesals that there, is highly significant differences between Democratic Style (DS) and moderate principals (LFS). Similar trend has been found in case of the comparison between Democratice style (DS) and Autocratic style (AS) and between autocratic style and moderates (LFS). Thus the first hypothesis that administrative style differ significantly is certained for the *t*-value an highly significant.

Table—2

Showing Significant difference between school climate on the basis of different types of administrative style.

School Climate on the basis of different Types of Ad. syle	N	Mean	S. D.	't' Value	df	Sigdificance.
DS	213	105·22	12·78	3·18	338	Significant*
AS	127	100 79	12·21			
DS	213	105·22	12 78	·5	341	Not Significant
LFS	130	105·96	13·70			
AS	127	100·79	12·91	3 19	255	Significant**
LFS	130	105 96	13·70			

* Significant at ·01 level

** Not Significant at ·05 level

A study of Table No. 2 clearly reveals a very interesting trend that a school climate under the democratic and autocratic principals differs very significantly, for the *t*-value is significant at ·01 level. Similarly the high significant difference is obtained between the mean scores of the school climate of autocratic style (AS) and Laissez-Faire style (LFS). For the 't' value is significant ·01 level but when the comparison was made between the mean values of the school climate of democratic style and Laissezo Faire style the difference was not found significant. It clearly shows that Laissez-Faire style and democratic style can be located as the positive points of the administrative style and autocratic style at the negative point.

The findings that have been discussed above can be interpretted in two meanners. Firstly, although the style differs yet the climatic perceptions are mostly stereo-type and the final differences are ignored by the subjects. Secondly the democratic style (DS) and Laissez-Faire style (LFS) are overlapping the nature and conted, and therefore sharp difference could not be obtained. In a way the intermediary style LFS can be eliminated in order to make sharper that normally subjects can efficiently respond to contrasting situation with intensity. But when such contrasts are not obtained, the sharpness of respones tend be neare to mid point towards positive side.

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Asian Journal of Psychology and Education
1985, Vol. 15, No 3, Page. 17–22

The Impact of Study-Habits of intellectually Backward Pupils Upon Their Academic Achievement

Yashomati Patel

Introduction

Intelligence is mostly concerned with an innate ability while habits are generally formulated, acquired, cultivated and fixed by repeated effort. There may be sizeable number of pupils below the line of average intelligence. Not all pupils having above-average intelligence may be expected to do good or better in the studies. Their potential intelligence is got to be transmuted into kinetic intelligence. The medium through which this transformation is possible is study habits. It has been aptly said, "Inspiration is one percent while perspiration is 99 per cent in any good work".

Hence it is the purpose of this article to look into the qualitative aspect of study habits of the pupils and its impact on the school achievement.

Hypotheses

The following hypotheses were formulated for the study :

(1) There is no difference between the mean scores of study-habits of intellectually backward pupils from urban and rural areas.

(2) There is no difference between the mean scores of study-habits of intellectually backward girls and backward boys.

(3) There is no difference between the correlations found for girls and boys in their academic achievement and study-habits scores.

(4) There is no linear trend in the means of the various components of study-habits.

Limitations of the Study

(1) Only 76 pupils of Std. VIII of three schools each of urban and rural schools of kheda district (Gujarat) participated the this study.

(2) The last terminal examination result was taken into consideration, the total marks of which were transformed into percentages for comparison.

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Procedure

(A) Selection of Sample

In order to isolate intellectually backward pupils, purposive sampling method was resorted to (1) 600 pupils of Std. VIII of three urban and three rural schools were administered the General Ability Test of M. T. Patel which was considered valid and reliable for the purpose.

Some 78 pupils of both the sex had got up to 78·08 I. Q. Which was the demarcating point of Q_1 of the I. Q. distribution scores.

(B) The intellectually backward pupils were administered study habits inventory developed by B. V. Patel. The inventory has seven components, each of which runs into several statements. These statements were responded on 5-point scale and the total score of each pupil was found out by the procedure given in the mamual.

(C) The result of th eterminal examination was taken into consideration. The six schools had different question papers, therefore, the pupils' aggregate marks were converted into percentages before they were entered into data matrix.

Analysis of Data

The purposive sampling was resorted to in order to get equal number of pupils of both sex in four categories listed below :

(i) Urban Boys (UB)
(ii) Urban Girls (UG)
(iii) Rural Boys (RB)
(iv) Rural Girls (RG)

2×2 factorial design was formed and the Anova, Correlational and Trend Analysis were used for statistical analysis of the data to test the null hypotheses.

Table 1 shows N, M and SD of the study habits scores of different groups.

Table 1

N, M and SD of Study habits Scores

Groups	N	M	SD
UB	19	145	23·43
UG	19	163·84	18·77
RB	19	133·74	22·11
RG	19	166·32	21·45
N	76		

Before embarking upon ANOVA, F test of homogeneity of variance 5 was computed and it was found to be 1,558 which was not significant at ·01 level. This confirmed that variances of all the four groups could be held to be homogeneous.

The table 2 gives the Anova results.

Table 2

ANOVA of study habits

Source	S. S.	df	Mss	F	Remarks
Area	226·80	1	226·80	0·503	Not significant
Sex	13563·40	1	13563·40	30·09	Significant at ·01 level
Area & Sex	646·40	1	64-40	2·43	
Error	32452·50	72	450·73		
Total	46889·10	75			

(a) Study : 1 : **School Area and Study habits**

To know whether the area had any influence upon the study habits, the first null hypotheses was put to F test, the F Value 0·503 was found to be insignificant at ·01 level. Therefore the null hypothesis was retained.

(b) Study : 2 : **Sex and Study habits**

Is Study habit related to sex of the pupils ? Referring table 2 above, the observed F is 30·09 which is significant at ·01 level. Hence there was a rejection of null-hypothesis and it was concluded that there was a significant difference between the mean scores of the study habits of boys and girls.

In order to decide which group was superior in study habits the Scheffe's Test for multiple comparisons was used.

The Scheffe procedure Consists in calculating a critical value for a mean difference. Any mean difference that exceeds the critical difference in absolute value would be significant. The values in the Schaffe critical difference formula are the values taken from overall F test from Table 2. The means of the four groups are arranged row and column-wise and the differences of means are shown in the body of the table 3, given below :

Table 3

Means of different groups and mean differences

Groups		RB	UB	UG	RG
	Mean	133·74	143·00	163·84	166·32
RG	166·32	32·58	23·38	2·48	
UG	163·84	30·01	20·84	—	—
UB	143·00	9·26	—		
RB	133·74	—			

Calculated Schaffe Critical Values :

13,59 at ·05 level
18·07 at ·01 level

On the basis of Schaffe's critical values, it was concluded that,

(i) Rural girls (RG) were significantly superior in study-habits to rural boys (RB) and Urban boys (UB) at ·01 level.

(ii) Urban girls (UG) were significantly superior in study-habits to rural boys (RB) and Urban boys (UR) at ·01 level.

The net outcome of this investigation was that the girls from both the areas were far better in study habits than boys of those areas.

V (C) Study : 3 : Study habits and School Achievement

For the purpose of this study the pupils total marks in terminal examination of all the academic subjects were converted into percentages. Then the product-moment correlation coefficients between the scores of study habits and achievement percentages of all the groups UB, UG, RB and RU were computed. The Fisher's transformation of the Pearson correlation coefficients was invoked so that the various groups could be compared by testing appropriate null-hyppotheses. The data are given in Table 4.

Table 4

Pearson's r and z transformations and differences of z with various groups

		RG	UB	RB	UG
Pearson r		·89	·72	·69	·45
Fisher's z		1·42	·91	·85	·48
Groups					
UG	·48	·94	·43	·37	—
RB	·85	·57	·06	—	
UB	·91	·51	—		
RG	1·42	—			

The differences of z of the four groups are entered in the body of the table 4 and these differences were compared with the SE difference of z which is ·70.

The null-hypothesis, is

$$Z_{Rg} - Z_{ug} = 0$$

$$\therefore \quad 1{\cdot}42 - {\cdot}48 = {\cdot}94$$

$$\text{Ratio} = \frac{{\cdot}94}{{\cdot}7} = 1{\cdot}34$$

The calculated value 1·34 is less than 2, the difference between the two z's was not significant at ·01 level. Hence the H_0 is retained and it was concluded that there was no real difference between the correlations found for RG and UG. Since this difference between the two z's is the largest and since it was found not significant, it was also concluded that all the smaller differences of a z were not significant at ·01 level. So all the correlational null-hypotheses were retained, thereby signifying that there was no real differences in any two z's values. This proved that the groups got achievement scores in relation to their study habit's scores.

(D) Study : 4 : Trend in the study habits

The tool for measuring study habits consists of seven components, which the pupils responded on a five-point scale.

The study habits components sums of all the four groups of the pupils were computed and they were subjected to trend analysis. For the purpose of the study only linear and quadratis trends were computed. Table 5 gives the trend analysis calculations.

Table 5

Trend Analysis for the seven Components of Study Habits

Orthogonal coefficients

								Comparison	
Linear	−3	−2	—1	0	1	2	3		
Quadratic	5	0	−3	−4	−3	0	5	Linear	Quadratic
Components	S_1	S_2	S_3	S_4	S_5	S_6	S_7	D_1	D_2
UB	417	561	313	237	294	503	379	−258	1196
UG	527	674	373	275	325	534	404	+691	1441
RB	451	468	312	229	288	399	384	−363	1459
RG	549	621	374	390	343	541	444	− 12	1654
								−1330	5750

Sum of Linear Coeff =28

Sum of Quadratic Coeff =84

No. of observations =4 groups z 19 obs. of each

=76

$$\text{Linear} = \frac{D^2_1}{76 \times 28} = \frac{(-1330)^2}{76 \times 28} = 831{\cdot}25$$

$$F = \frac{831{\cdot}25}{\text{Variance}} = \frac{831{\cdot}25}{450{\cdot}73} = 1{\cdot}844$$

This F value is not significant at ·01 level. Hence it was concluded that the overall means of the four groups in the seven components of study habits were not linear and that there was a significant curvature in the means.

This could be varified by computing the quadratic trend

$$D_2 = \frac{(5750)^2}{76 \times 84} = 5178{\cdot}963$$

$$F = \frac{5178{\cdot}963}{450{\cdot}73} = 11{\cdot}49$$

The quadratic trend is highly significant at ·01 level and hence there was a curvature in the means.

Summary

76 pupils of Std. VIII of urban and rural schools were isolated as intellectually backwards pupils for administering the study habits inventory. They had their I. Q. at or below 78·08 on MGAT.

ANOVA showed that no one area played an important role so far as study habits of pupils were concerned, whereas sex of the pupils had an important bearing in the development of study habits. In this girls from both the areas, rural and urban, were found to be superior to boys.

The correlation analysis showed that all the groups of the pupils did educationally according to their study habits.

The trend analysis of the seven components of study habits revealed that there was a significant difference in the means of various components as responded by the pupils of different groups that is why linear trend was found to be insignificant.

Implication

Study habit is a fulcrum round which revolves the educational success or failure of the pupils. If the school looks after the proper development of study habits, half the battle could be won in the first instance. It is earier to develop study habits than to pump irrelevant information in the pupil's mind.

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Asian Journal of Psychology and Education
1985, Vol. 15, No. 3, Page 23–29

Development of Standardise Test For Measuring Extension Workers 'And Farmers' Knowledge About Dryland Agricultural Technology (Dat)

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Introduction

Though in the past, number of standardised tests have been developed for measuring knowledge about specific crops like rice, Hybrid maize, Hybrid ragi etc. But so far very few attempts have been made to develop a reliable test to measure individual's knowledge about the entire dryland agricultural technology (DAT). The present study has been undertaken to meet this deficiency. The purpose of this study was to develop a standardised test to measure the knowledge of extension workers associated in the transfer of dryland agricultural technology and farmers adopting the Dryland agricultural technology.

Knowledge is a precondition to adopt any innovation. Knowledge, as defined in the present study, included "those behaviours and test situations which emphasised the remembering either by recognition or recall of ideas and material on some phenomena" (Bloom *et al.*, 1955).

The behaviours expected of the extension workers of linking agencies of dryland agricultural research project and farmers in a recall situation was very similar to the behaviour they were expected to have during original learning situation.

Methodology

The study was conducted in three villages-Narsing, Kokapet and Bandlaguda of Rajendranagar block, Ranga Reddy District, Andhra Pradesh. Knowledge test was developed by administering the knowledge items to 30 Extension workers drawn randomly from Rajendranagar block and 30 dryland farmers selected randomly from three villages in the same block. The details of the standardisation of the test items is as follows.

Collection of knowtedge items The content of the test was composed of items asked in the form of questions. The important factor considered in collecting the items for knowledge test was to determine and classify the object to be measured by it in terms of

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the respondents' abilities. Items were collected from different sources of literature, bulletins, reports printed by All India Coordinated Research Project for Dryland Agriculture, Hyderabad ; Project Coordinators, Associate Project Coordinators, Chief Scientist, Scientists, Chief Training Officer of TTC/KVK of Coordinating Cell and Hyderabad main centre were also consulted to include relevant information relating to knowledge and principles of improved dryland agricultural technology. In all 100 knowledge items were collected basing on the principles and practices of improved dryland agricultural technology.

Selection of items for item analysis. The criteria used for selection of items were :

1. Response to items should promote thinking rather than rote memorisation.
2. They should differentiate the well informed respondent from less informed and should have certain difficulty value.
3. The items included should cover all areas of knowledge about dryland agricultural technology.

By using the above criteria, 72 items were selected for construction of knowledge test after they were edited carefully by subjecting them to expert scrutiny. The experts consisted of Project Coordinator, Chief Scientist, Scientists and Extension workers of Coordinating Cell of Dryland Agricultural Research Project, Hyderabad.

The items were then framed in the 'objective form of question. In this form, the answers were completely controlled by having alternative and multiple choice questions and therefore, the assessment was objective and impersonal.

Item analysis. The item analysis was carried out so as to yield two kinds of information viz., index of 'item difficulty' and 'index of item validity'. The index of item validity provided information on how well an item measures or discriminates in agreement with the rest of the test while the index of item difficulty indicated the extent to which an item was difficult. The function of item discrimination index was to find out whether from poorly informed respondent.

Pretestina of the items wss done as suggested by Conrad (1984). The items were revised and administered to 60 respondents (Extension workers and formers 30 each) selected for the purpose in controlled situation. The data thus obtained was subjected for typical item analysis. To analyse 72 items each one of the 60 respondents to whom the test was administered was scored on the basis of the score alloted; one for 'correct response' and zero for 'incorrect response'. After computing the total scores obtained by each of 60 respondents on 72 items, they were arranged in order from highest scores to lowest. These 60 respondents were then divided into six equal groups arranged in descending order of total scores obtained by them. These groups were labelled as G1, G2, G3, G4, G5 and G6 respectively with 10 respondents in each group. For the purpose of item analysis, the middle two groups G3 and G4 were eliminated keeping only four extreme groups with high and low scores. The data of correct responses for each of 72 items was tabulated for each of these four groups.

Selection of items for the final test. The selection of the items, for knowledge test of improved dryland agricultural technology was done based on the following criteria for this study.

Item difficulty index (P). The index of difficulty was worked out as the percentage of the respondents answering an item correctly. The assumption in this item statistics of difficulty was that the difficulty is linearly related to the level of respondents knowledge about improved dryland agricultural technology. The items with P-values ranging from 30-70 were considered for final selection of the knowledge test battery.

Discrimination index (E 1/3). The second criteria for item selection was the dircrimination index indicated by 'E 1/3' which is calculated by the formula—

$$E\ 1/3=\frac{(S_1+S_2)-(S_5+S_6)}{N/3}$$

where, S_1, S_2, S_5 and S_6 are the frequencies of correct answers in the groups G_1, G_2, G_5 and G_6 respectively.

N is the total number of respondents in the sample selected for item analysis, that is 60.

The items with discrimination index 0·30 to 0·70 were selected for the final test. Since the discrimination index varies between 0 to 1 it was considered necessary to select items with at least 0·30 discrimination index to be lowest discrimination point and 0·70 as the highest discrimination index point in order to have a wider continum of discrimination of the items.

Point biserial correlation (rpbis). Point biserial. correlation is the test validation in which the criterion of validity is considered to be internally consistent. That is, the relationship of total score to a dischotomised response to any given item. An item by item computation of point biserial correlation was calculated by using the formula (Garrett, 1967).

$$\text{rpbis}=\frac{\text{Mp}-\text{Mq}}{\text{S. D}}\times\sqrt{\text{Pq}}$$

where, $\text{MP}=\dfrac{\text{Sum total of XY}}{\text{Total number of correct answers}}$

$\text{Mq}=\dfrac{\text{Sum total of X}-\text{Sum total of XY}}{\text{Total number of wrong answers}}$

SD = Standard deviation of X scores

$\text{P}=\dfrac{\text{Total number of correct answers}}{\text{Total number of respondents}}$

q = 1 − p

X = Total score of respondent of all items

Y = Response of the individual for the item :

Correct = 1

Incorrect = 0

XY = Total score of respondent multiplied by the response of individual to the item (Correct – 1; Incorrect=0)

Items having significant point biserial correlation at 1 per cent level were selected for the final test of knowledge.

Representativeness of the test. It was taken that the test items selected finally should cover the entire universe of the relevant behavioural aspects of respondents' knowledge about dryland agricultural techonogy.

Total items selected. Out of the 72 items, 24 items finally selected based on ;

i. items with item difficulty level indices ranging from 30 70 ·

ii. items with discrimination indices ranging from 0·30 to 0·70, and

iii. items having significant point biserial correlation at 1 per cent level.

Thus finally selected knowledge test comprised of 11 test items of correct/incorrect type, 4 items under multiple choice and 9 test items with fill up the blanks, totalling to 24 items test battery on knowledge of improved dryland agricultural technology.

The selected items with their P, E 1/3 and rpbis values are appended (Appenddix-I).

Test-retest reliability. The test was administered twice to the 30 Extension personnel and 30 farmers separately with an interval of 15 days. The two sets of knowledge scores obtained for both extension personnel and farmers were correlated separately. The correlation coefficients were r = 0·85 and 0 80 respectively which were highly significant indicating a high degree of dependability of the instrument for measuring knowledge on improved dryland agricultural technology of both extension workers and farmers.

Validity of the test. The validity of the test items was tested by the method of biserial correlation (rpbis). The items with highly significant biserial correlation coefficients (rpbis) at one per cent level indicated the validity of the items in relation to knowledge test designed to measure the knowledge about dryland agricultural technolgy.

Content validity. The content of the knowledge test was derived from a long list of test items. These test items represented the whole universe of dryland agricultural technology. It was thus assumed that the scores obtained by administering the knowledge test of this study measures what was intended to measure.

Thus, the knowledge test developed in the present study measures the knowledge of extension personnel and farmers about dryland agricultural technology and showed a great degree of reliability and validity indicating that the test items were valid.

Scoring pattern. The 24 selected knowledge test items were rearranged under different types as 'True or False', 'Multiple choice items' and 'Fill up the blanks' with suitable instructions. The correct response to each test item was scored as 'one' and incorrect response a score of 'zero'. Thus the knowledge score of a respondent is the summation of correctly answered items out of a total of 24 knowledge test items.

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APPENDIX—I

Difficulty and Discrimnation Index For Knowledge Test Items and Point Biserial Correlation

Item No.	Frequency of correct answer S_1	S_2	S_5	S_6	Total frequency of correct answers (N=60) responses	Difficulty Index (%of respondents giving correct	Discrimination index index (E1/3)	Point biserial correlation (rpbis)	
1	2	3	4	5	6	7	8	9	
1.	10	8	8	2	43	71‘38	0·40		NC
2.	10	8	7	5	44	73·04	0·30		NC
3.	9	5	6	7	34	56 44	0·05	0·349	**
4.	10	9	8	6	45	74·70	0·25		NC
5.	9	5	6	4	34	56·44	0·20	0·234	NS
6.	9	9	9	7	49	81·34	0·10		NC
7.	10	10	6	4	43	71‘38	0·50		NC
*8.	9	8	2	3	35	59·10	0·60	9·450	**
*9.	10	8	6	5	39	64·74	0·35	0·350	**
10.	10	10	9	8	56	92·96	0·75		NC
*11.	10	5	5	0	32	53·12	0·50	0·555	**
12.	9	8	7	6	40	66·40	0·20	0·496	**
13.	10	10	3	3	43	71·38	0·70		NC
14:	8	9	6	6	39	64·74	0·25	0·274	*
*15.	10	5	5	3	38	63·04	0·35	0·358	**
16.	7	6	3	4	28	46‘48	0·30	0·255	*
17.	8	5	6	1	35	58·10	0·30	0·263	*

1	2	3	4	5	6	7	8	9	.
*18.	9	6	3	5	27	44·82	0·35	0·369	**
*19.	8	7	4	3	33	54·78	0·40	0·337	**
28.	10	10	7	6	48	79·68	0·35		NC
*21.	10	8	3	1	35	58·10	0·70	0'535	**
22.	9	6	5	4	36	59·76	0·30	0·270	*
*23.	9	8	4	6	37	61·42	0·35	0·390	**
24.	7	8	10	3	37	61'42	0·10	0·165	NS
25.	6	9	5	4	35	5810	0·30	0·159	NS
26.	9	9	8	7	50	83·00	0·15		NC
27.	9	8	9	5	40	66·40	0·15	0·238	*
*28.	9	7	6	3	34	56·44	0·35	0·384	**
99.	8	1	2	1	17	28·22	0·30		NC
*30.	10	4	1	1	23	38·18	0·66	0·563	**
31.	10	8	6	5	45	74·70	0'35		NC
*32.	10	9	4	4	42	69·72	0·55	0·383	**
33.	10	10	7	7	49	81·34	0:30	NC	
34.	10	9	5	10	47	78·02	0·20	NC	
35.	9	9	5	7	42	69·72	0·30	0·290	*
36.	10	8	4	6	42	69·72	0 40	0·129	NS
37.	10	10	4	8	50	83 00	0·40	CN	
*38.	10	7	2	6	35	58·10	0·45	0·381	**
*39.	8	6	2	1	28	46·45	0·55	0·386	**
40.	4	4	1	0	13	21·58	0·35	NC	
41.	10	10	8	4	49	81·34	0·40	NC	
42.	10	8	7	5	47	78·02	0·30	NC	
*43.	10	5	3	1	27	44·82	0·55	0·422	**
44.	7	3	4	6	27	44·82	0	0'105	NS
45.	8	5	7	6	36	59·76	0	0·106	NS
47.	10	8	5	6	43	71·38	0·35		NC
47.	10	10	9	9	55	91·30	0·10		NC
48.	8	4	4	4	27	44·82	0·20	0'299	*
49,	9	4	2	7	32	53·12	0·20	0·246	NS

1	2	3	4	5	6	7	8	9	
*50.	9	4	11	1	29	48·14	0·55	0·597	**
51.	10	9	7	9	49	81 34	0·15		NC
52.	6	5	6	4	33	54·78	0 05	0·007	NS
53·	10	9	7	5	48	79·68	0·35		NC
54.	6	5	5	3	25	41·50	0·15	0·167	NS
55.	10	9	4	5	46	76 36	0·50		NC
56.	9	8	6	6	42	69·72	0·25	0·242	NS
*57.	10	6	6	3	35	48·10	0·35	0·394	**
58.	10	4	4	5	34	56·44	0·25	0·364	**
*59.	10	8	3	7	42	69·72	0.40	0·370	**
60.	10	7	3	2	33	54·78	0·60	0·256	*
*61.	9	7	4	3	32	53·12	0·45	0·339	**
62.	8	3	1	3	25	41·50	0·40	0·588	**
*63.	10	7	4	4	40	66·40	0·45	0·338	**
64.	5	3	0	1	14	23·24	0·35		NC
65.	9	9	6	7	44	73·04	0·25		NC
*66.	9	4	2	3	26	43·16	0·40	0·428	**
67.	10	7	7	4	40	66·40	0·30	0·310	*
68.	8	3	4	3	23	39·84	0·20	0·340	**
69.	9	5	5	3	34	56·44	0·30	8·236	NS
70.	8	3	5	3	28	46·48	0·15	0·270	*
*71.	10	9	4	1	36	59·76	0·70	0·562	**
72.	6	5	4	1	21	34·86	0·30	0·258	*

*** Significant at 0·05 level. ** Significant at 0·01 level, NS Not significant, NC Point biserial correlation coefficient (rpbis) is not calculated for items with difficulty index (P) more than 70 and less than 30. * Items (marked at 1st column) selected for the final knowledge test.**

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Use of Educational Technology in Teaching of Mathematics at the Higher Secondary Stage

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EARTH

For the last fifteen years a revolution, popularly known as the 'New Mathematics Revolution' has swept the world. It has involved an expenditure of millions of dollars, pounds, francs and rupees and millions of man hours of school, college and university teachers, administrators and some of the foremost mathematicians of modern times. If we look at the figures of student enrolment, no. of schools, colleges and university started, no. of teachers appointed, we will find that these are very impressive. But with the continuing of the same methods of teaching and same course of study, with its emphasis on the theoretical and cookish, learning we cannot say that we have moved towards the goal of making mathematics education to the needs of the people. Still the teacher of mathematics in the higher secondary schools is facing today many problems in his efforts to train the students in assimilating the growing body of mathematics knowledge. It is in this context, for giving new directions to the teaching of mathematics at the higher secondary stage that I find educational teachnology has a highly significant role to play both in helping the formal system of schooling through class room mathematics teaching and also the non-formal system by taking the benefit of matematics learning to door steps of learners.

Secondly, if we want to bring about a mathematics revolution in the higher Secondary Education of which we have been talking about for the last many years, we will have to make a massive use of educational technology in the teaching of mathematics because Educational Technology has been coined principally to express the notion of men, machines and material working together to improve the relevance of both teaching and learning processes.

Following are the various educational technologies which are available and can be used with increasing effectiveness by the mathematics teachers and which will help them in meeting the great challenge in their task of teaching mathematics.

1. **Black Board** : The use of black-board is indispensable for all the branches and topics of mathematics. In all the task like drawing of diagrams and figures, giving definitions, writing the language of the problems and their solutions, drawing generalizations

and giving principles and formulae, assigning home work, black-board proves a good helping hand. The black board with graph lines may be successfully used for drawing all types of geometrical figures, plotting graphs, presenting statistical data, solving problems on area and volume.

2. **Drawing Instruments** : In geometry and mensuration the use of drawing instruments help much in learning mathematical facts and skills. Teacher can also try to take help of the wooden instruments for his demostration work on the black board.

3. **Weighing and Measuring Instruments** : The teacher should try to take help of such instrments like tops, balances and weights, graduated cylinders etc. for acquainting the students with different scales and units of weight and measurement.

4. **Real Objects** : Class-Room, black-board, play grounds and gardening plot may work as a real objects for teaching mensuration. Similarly objects like beads, coins, seeds pebbles, coloured balls or solids etce may prove helpful in teaching various topics and concepts concerning four fundamental roles, average, percentage, fractions. profit and loss etc.

5. **Models** : Model can be used to acquaint the students with the shape and forms of different geometrical figures. For topics like area of four walls, cross-roads and other squares, rectangular and circular figures, facts related to theorems and exercises, models may be made out of thick papers and square, round or rectangular pieces of cardboard.

6. **Charts** : The charts may prove a helping hand to the teachers as they save their time and energy on the black-board and also a means of imparting self-education to the students. For example to teach fractionr-simple, compound and decimal fractional parts (rectangular or circular) may be drawn on the charts. In teaching profit and loss, unitary method, percentage, interest, work and time, the help of charts may be taken to work out principles and formulae. In geometry, the use of charts may be made in showing figures concerning the proof of the theorems and helping the students in the construction of various geometrical figures and diagrams. In algebra, the charts may be effectively used in teaching of directed numbers, four fundamental rules and problems based on equations.

7. **Pictures** : Pictures concerning great mathematicians, history of mathematics and pictures showing use of mathematies in day to day life may be very useful for the teaching of mathematics.

Many varieties of models, charts and pictures are now available commercially and efforts are being made in a number of institutions (specially in developing countries) for the preparation of low cost models, charts and pictures under the University Leadership projects (ULP) of the UGC·

8. **News Papers** : The statistics given in the news paper in the form of weather charts, the prices of various commodities, budgets of state and central government, interest rate of various private and goverment agencies, stock and shares etc. all provide good means for making the teaching of mathematics interesting, useful and purposeful.

9. **Planned Demonstration** : Careful preparation and rehearsal are absolutely essential for a sucessful demonstration. Before the demonstration students must be made familiar with they have to look and should be given background knowledge. There must be ample time at the end of the demonstration for discussion and clarification.

10. Programme Learning : Programmed instruction is a teachnique of communication which consists of questions posed by the teacher combined with answers from the students, usually in a one-to-one teacher student relationship. The successive, question asked by the teacher are determined by the preeding answer or answers given by the students. This technique is very helpful in developing reasoning, thicking power of the students and arousing critical awareness while developing the lesson.

11. Magic Lantern : It helps the teacher to demonstrate different types of figures diagrams, pictures related to various topics of mathematics through slides while giving explanation to the facts side by side.

12. Epidiascope : When the teacher feels difficulty in drawing or giving things on the black-board. he/she can take the help of this instrument for enlarging and then demonstrating the contents, figures and diagrams of the printed or hand-written pages.

13. Film-Strip : Film strip give a new colour and attraction to different idegas in mathematics. In a film-strip 10-15 slides concerning useful topics are photographed on a 35 or 16 mm films. These film strips are then projected on the screen through a projector. The teacher may demonstrate the pictures for any time of period irrespective of speed as the situation demands. The films strip may be easily obtained from the market or borrowed from the central library, department of NCERT AND SCERT.

14. Cinema ; The life history of mathematicans, their discoveries and historical landmark of the development of mathematics, various principles, definitions and facts of mathematics, geometrical figures, measures of different dimensions areas and volume may be demonstrated through cinema films. Through film students may be acquainted with the use of mathematics in solving day to day life problems. Teachers can also be acquinted with the growing knowledge and methods of teaching being adopted in other countries. The films may be borrowed from state or central education departments, library, NCERT or SCERT. The teacher can demonstrate film through some projector in a school hall or big room.

15. Radio and Television : In these days some important discussions and speeches concerning principles and laws of mathematics, life history and contributions of mathematics, historical development of the knowledge of mathematics, the application of mathematics in practical life are broadcast from all the important cantres of A. I. R. Television has far greater advantages as it not only conveys the voices but the picture and actual scenes also.

16. Tap-Recorder : With the use of these low-cost taped lectures of specialists, the deficiency of sufficient number of qualified staff could be partially ovrcome. In a number of cases attempts have successfully been made to illustrate the points made in the taped lecture by charts and figures, which the listener is advised to look at simultaneously with the development of subject matter in the taped lecture.

To conclude, a mathematics teacher may choose the appropriate aids suiting to his needs, time and occasion. It is also true that financial resources put obstacle in the way of taking advantages from aids but the teacher may get these aids prepared with the help of his students through indigenous and cheap material or he/she can also take the services of education department, teachers training institutions, NCERT, SCERT, and UGC for getting the useful teaching aids in mathematics. In this way planning for above educational media can reduce wastage and improve efficiency without in any way sacrificing the human qualities of mathematics education at the Higher Secondary stage.

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PUBLISHED BY

Agra Psychological Research Cell
TIWARI KOTHI, BELANGANJ, AGRA-282004 (INDIA)
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A Study of Certain Factors Related with High and Low Achievement in College Students

Dr. (Mrs.) Usha Kumawat*

The study of academic achievement of students is of great significance, as the efficiency or deficiency of a student is chiefly determined by the quality of his academic achievement. So the entire effort of education is towards improving the academic performance of the pupils. The study of academic achievement of students at the university stage in terms of its correlates has been increasing as a focal point of educational and psychological rerearches in the last two decades.

Academic achievement is not a uni-dimensional function but multi-dimensional. In other words, academic achievement has to studied in terms of its socio-psychological correlates in order to identify the factors which are important in affecting the academic achievement of the university students, and on that basis to suggest the measures of improvement to the educationists and educational authorities. By studying the factors of academic achievement the causes of poor academic performauce may be traced out and be controlled suitably.

There have been many attempts to study the different factors which affects academic achievement of over and under achievers. These include such factors as Intelligence, Achievement motivation, Attitude, Level of aspiration, Interest, Socio-economic status Personality, Study habits, Sex etc. A review of the literature revealed that there are many important factors still remain unprobed. Considering this in view it was planned to study the factors, namely, Intelligence, Concept formation ability, Adjustment, Scientific Attitude and Contact Personality factors in relation of academic achievement of High and Low achievers.

Besides these factors, it was also planned to study the Job Values and Job perferences of high and low achieving students. The main objectives of study were as following :

1. To make a comparative study of the Intelligence of High Achievers with Low Achievers in each of the three groups of students, namely, Science, Agricultural Engineering undergraduates.

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2. To compare the concept formation ability of High achievers and Low achievers in each of the three groups of students.
3. To compare the adjustment of High achievers and Low achievers in each of the three groups of students.
4. To make a comparative study of the Scientific Attitude of High achievers and Low achievers in each of the three groups of students.
5. To compare the Contact Personality Factors of High achievers and Low achivers in each of the three groups of students.
6. To find out the most dominant Job Values of High achievers in case of Science, Agricultural Science and Agricultural Engineering groups of students.
7. To study the dominent Job Preferences of High achievers and Low achievers in each of the said three groups of students.

Methods and Procedure :

Sample

The sample included in the present study consisted of Science, Agricultural Science and Agricultural Engineering male undergraduate students from the three constituent colleges of Udaipur University, namely, Colleges of Science, Agricultural Science and Agricultural Engineering. 100 students were taken from each college, out of which 50 were High achievers and 50 were Low achievers. Thus, the total number of students were 300. To elusidate High achievers was a student who scored above the mean achievement score and low achiever was a student who scored below the mean achievement score of the particular group.

Design :

It was an ex-post-facto experimental design of study with three groups of college students namely, Science, Agricultural Science and Agricultural Engineering with 50 High Achievers and 50 Low Achievers in each group as specified above. Inter-comparisons were made between High Achievers and Low Achievers in regard to the seven factors of academic achievement which were undertaken for being explored, namely, Intelligence, Concept-Formation, Adjustment, Scientific Attitude, Contact Personality Factor, Job values and Job preference.

Tests and Tools used in the study

The tests and tools used in the present study were :

1. Cattell's Culture Fair Intelligence Test ; (2) Rai's Concept Formation Test ; (3) Sinha and Sidgh's Adjustment Inventory (4) Self Prepared Scientific Attitude test ; (5) Cattell's Contact Personality Factor Test ; (6) Centers Job Value Card and (7) Self-prepared Job Preference.

Procedure ;

The data were collected by the investigator in the three colleges of Udaipur University-college of Science, College of Agricultural Science and College of Agricultural Engineering. Individual tests were administered on individual student and group tests were administered in small groups of about 25 students.

Results & Discussion

The data pertaining to different aspects of the study were analysed statistically. In order to compare the score of High Achievers and Low Achievers in the three groups, namely Science, Agricultural Science and Agricultural Engineering, *t*-test was computed. This was done with a view to discover as to which of factors were significant in affecting the academic achievement of the students. The results regarding the different factors are being discussed hereunder :

Table-1

Comparison of Intelligence scores of High Achievers and Low Achievess in the three groups.

Groups	High Achievers		Low Achievers		
	Mean	S. D.	Mean	S. D.	t-value
Science	19·18	3·76	17·74	3·84	2·02*
Ag. Sc.	17·70	3·27	16·30	2 92	2 25*
Ag. Engg.	20·94	3·79	19·40	3·85	2·01*

*Significant at ·05 level

A perusal of the results in the above table shows that intelligence of High Achievers was significantly more in case of Science, Agricultural Science as well as Agricultural Engineering groups of undergraduates. From this, it may be inferred that higher the intelligence, higher was the achievement in case of each of the said groups, or in other words Intelligence is a significant factor affecting the academic achievement in case of these students. The above finding tallies with that of Rastogi (1974) ; Am erjan, Girja and Bhadra (1978) ; Sudame (1973) ; Reddy (1973) and Seetha (1975) who found in their studies that Intelligence is positively related with achievement.

Table-2

Comparison of the Concept Formation error scores of the High Achievers and Low Achievers in the three groups

Groups	High Achievers		Low Achievers		
	Mean	S. D	Mean	S. D.	t-value
Science	13·28	6·23	15·66	5·34	2·05*
Ag. Sc.	8·52	5·45	8·8	5·10	0·26
Ag. Engg.	11·08	6·49	13·94	7·34	2·06*

*Significant at ·05 level.

The mean Concept formation error scores of High Achievers and Low Achievers were computed for the three groups of students. 't'-test was compueted to see the significance of difference. Results as given in the above table show that in case of Science and Agricultural Engineering groups the High Achievers scored significantly lower mean concept formation error score than the Low Achievers, meaning thereby that the concept formation ability of High Achievers was better than the Low Achievers. However, this difference was not found in case of Agricultural group where High Achievers did not differ significantly in their scores.

Table-3

Comparison of Adjustment scores of High Achievers and Low Achievers of the three groups.

Groups	High Achievers		Low Achievers		
	Mean	S. D.	Mean	S. D	t-values
Science	72·66	11·47	74·52	9·10	0·92 N. S.
Ag. Sc.	72 01	9 97	71·48	9·73	0·27 N, S.
Ag. Engg.	74·32	11·14	72·08	9·78	1·06 N. S.

From the above table, it is found that *t*-values were not significant in regard to the mean diffrence between High Achievers and Low Achievers in each of the three groups. It clearly indicates that the adjustment was not a significant factor affecting the academic achievement. Sharma (1978) also did not find any significant difference between the adjustment of high and low achiving college students of Science.

Table-4

Comparison of Scientific Attitude scores of High Achievers and Low Achievers in the three groups.

Group	High Achievers		Low Achievers		
	Mean	S. D.	Mean	S. D.	*t*
Science	94·92	7·14	91·5	9·46	2·64
Ag. Sc.	97·94	6 00	94·3	7·92	2·14**
Ag. Engg.	90·72	9·15	88·58	7·33	1·15

It is observed from the above table that in case of Science and Agricultural Science groups, High Achievers scored significantly higher than Low Achievers meaning thereby that Scientific Attitude is a positive factor affecting the academic achievement of Science and Agricultural Science group. However, in case of Agricultural Engineering Group no significant difference was found between High Achievers and Low Achievers.

Table-5

Comparison of Contact Personality Factor scores of High Achievers and Low Achievers in the three groups.

Groups	High Achievers Mean	High Achievers S. D.	Low Achievers Mean	Low Achievers S. D.	t-values
Science	30·07	5·75	28·56	6·59	1·22
Ag. Sc.	31·52	4·66	30·5	4·97	1·05
Ag. Engg.	28·92	4·33	28·62	4·28	0·35

The results stated in above table show that there was no significant difference between the mean Contact Personality Factory score of High Achievers and Low Achievers in each of the three groups of students. This means that Contact Personality Pactor was a significant factor of academic achievement in each of the three groups.

Table-6

Dominant Job Value of High Achievers and Low Achievers in the three groups.

	Sc. Group		Ag. Sc. Group		Ag Engg. Group	
	Job Values	Z score	Job Values	Z score	Job Values	Z scores
High Achievers	Self-expression	1·06	Social-Service-	1·82	Self-expression	1·06
	Profit	·974	Self-expression	1·01	Social-service	1·01
	Social Service	·896	Fame	·786	Profit	·978
Low Achievers	Profit	·950	Social-Service	1·02	Profit	1·54
	Interest	·893		·831	Social-Service	·882
	Self-expression	·889	Self-Expression	·813	Interest	·874

For anlysing the Job Values of High Achievers and Low Achievers in each of the three groups, Science, Agricultural Science and Agricultural Engineering, the mean ranks given by the students were computed in respect of the ten job values From these mean ranks choice scores, probobilities, Z-Scores and corresponding corrected choice scores, proabilities and Z-scores were calculated. In the above table three dominant job values have been given for High Achievers and Low Achievers in the three groups. From the above table, it is evident that in Science group Self-expression and Profit were the dominant job values both in High Achievers as well as in Low Achievers. However the two group differed in other dominant job values which was Social-Service in High Achievers. and interest in low achievers. In Agricultural Science group Social-Service and self-expression were found to be the dominant job values of both High Achievers and Low Achievers. They differed only for one job value. For High Achievers it was Fame while for Low Achievers it was Profit In Agricultural Engineering group Social-Science and Profit were foundto be the dominant job values of High and Low Achievers. They differed on only one job value which was Self expression for High Achievers and Interest for Low Achievers. The discussion reveals that there was not much diffrence in the dominant job values of High Achievers and Low Achievers. However, the difference was observed in the rank given by them to the different job values.

Table-7

Dominant Job Preferences of High Achievers and Low Achievers in the three groups.

	Rank	Science	Ag. Science	Ag. Engg.
			Job Preference	
High Achievers	I	Administration	Administration	Administration
	II	Research	Farming Banking	Agri. Management
	III	Agro-Industrial Business	Agro-Industrial Business	Agro-Industrial Business
Low Achievers	I	Administration Research	Administration	Agro-Industrial Business.
	II	Agril. Management	Farming	Agril. Management
	III	Agro-Industril Business	Agro-Industrial Business	Administration

The perferences of High Achievers and Low Achievers in respect of 15 Jobs in each of the three groups were analysed. The first three preferences represented their most dominant preferences. They were combined mean percentages were calculated for each of the 15 jobs in three groups. As shown in table-7, it is evident that both High and Low Achievers had showd preference for jobs like Administration, Agro-Industrial Business and Agricultural Management. Of course, the rank differed for High and Low Achievers. In addition Science group showed preference for Research and Extension work while Agricultural Science group showed preference for Farming and Banking work also. So it can be stated that not much difference was found regarding the job preferences in High and Low Achievers.

Conclusion and Suggestion :

Following were the main findings of the study :

1. High Achievers were found significantly superior in Intelligence in each of the three groups of undergraduates.

2. High Achievers were significantly better than Low Achievers in regard to Concept Formation ability in case of Science and Agricultural Engineering group but not in case of Agricultural Science group.

3. There was no significant difference between the Adjnstment of High Achievers and Low Achievers in each of the three groups of students.

4. High Achievers had significantly more Scientific Attitude than Low Achievers in Science and Agricultural Science group but not in Argicultural Engineering group.

5. No significant difference was found between High Achievers and Low Achievers in regard to Contact Personality Factor in each of the three groups of undergraduates.

6. The most dominant Job Values of High Achievers were Self-Expression and Social Service and of Low Achievers Profit and Social Service in the three groups of students.

7. The most dominant Job Preferences of High Achicvers as well as of Low Achievers were Administrative job and Agro-Industrial Business in the three groups of students.

On the basis of the findings of the study, it may be concluded that Intelligence, Concept formation ability and Scientfic Attitude were the significant factors of Academic Achievement of Science, Agricultural Science and Agricultural Engineering undergraduates. These factors may be taken care of by the educationists and educational authorities concerned with the education of these students, so that, their conceptual ability and scientific attitude may be developed properly and thus, their level of academic ochievement may be raised. Another practical implication emerging out from the findings of the present study is with respect to providing these students jobs according to their Job values and Job perferences in order that they may better fit in the jobs and this will, obviously, enhance their out-put in the job.

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Asian Journal of Psychology and Education
1985, Vol. 15, No. 4, Page 8-11

Marital Adjustment of Overlearneds

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The present study aims at studying the effecting the effects of University education on Marital adjustment. Data are based upon responses of 40 Hindu couples having 10-15 years of marital relationship, the husbands' age ranging from 30-40 years. Four types of marital pairs, according to the university education, have been taken for the study. Singh's Marital Adjustment Inventory is used to mesure Martial adjustment of all the marital groups. Duncan's Range Test is appiled to chck the signtficance of difference among the means of different groups. Results indicate that where husband and wife both are overlearneds, that is, they are educated equally having Doctoral or Post Doctoral Degree, the Marital Adjustment scores of both the puttners are better than the other groups where both the partners are not equally educated. Another interesting result is that the Marital Adjustment of both the couple is best when both are uudereducated.

Introduction

Marriage is a group sanctioned bond establishing the family relations especially with reference to offsprings. The sex partnership of the family has a different basis and has different purposes and different consequences from those of other partnerships. It alone provides a way of combining and harmonizing certain closely related functions as—

(i) The procreation and the care ; and the nature of the young.

(ii) The more stable satisfaction of the sex needs of the partner, and

(iii) The sharing of a home, with its combination of marital, cultural and affectional satisfaction. (Page & MacIver, P. 260-264).

This study is couched in a social-psychological perspective of marital and famial interaction. From this perspective the family is viewed, as Burgess (1926) noted, a system of interacting personalities who develop orientations from self-other perceptions of the social situations'. Each member's self-concept is, in part, determined by how he/she thinks about the other partner and how the other partner views him/her. (Cole, Cole and Dean, 1980) Various attempts have been made in America to determine the specific elements in the person or situation which make marriage a success or failure (Burgess and Cortrell, 1939 : Terman, 1938 : Locke and Wallack, 1959 : Levinger, 1966 : Murstein, 1972 : Wright, 1978 : Scanzoni, 1979 : Snyder, 1979 : Scanzoni and Fox, 1980 : Locksley, 1980 & Kalia 1980.)

Rapid expansion of University education in India, during the last 20 years, has changed the tone of Indian homes and built up the social and national fabric of Indian life on a better foundation. Education prepares a person not only for a 'good' home life but also for an 'efficient' home life and we know that better marital relations and social adjustment within the family, in fact, are the corner stones of present and future adjustment in the community. Hence, it is hypothesized that overlearned spouses, who are fully mature and represent the higher and intellectual class of the society, must have better understanding of the self and of their partners ; and are likely to be more adjusted in their marital relations than the general people.

Method of Study

Sample :

Data for this study are based upon responses of a sample of 40 Hindu couples having 10 to 14 years of marital relationship—the husbands' age ranging 35 to 45 years and the wives' age ranging from 30 to 45 years. All the subjects are drawn from the conventional middle class of the society. The following four types of marital pairs according to the university education, are taken for the study. In each of the four types, 10 couples are included i. e., Husband N=10 and Wife N=10.

(i) Husbands overlearnded (having a Doctoral or Post-Doctoral Degree) and wives educated (having Graduate or Post-graduate Degree only.)
(ii) Husbands educated and wives overlearned.
(iii) Husbands and wives both overlearned.
(iv) Husbands and wives both under-educated, (that is, having education up to High School or Intermediate level only.

Tool Used :

Singh's Marital Adjustment Inventory is used to measure Marital groups selected for the study. The Inventory contains to separate Forms-A and B for husbands and wives respectively. High scores indicate greater degree of marital adjustment. The test possess high degree of reliability.

Reaults & Discussion

The obtained values of Mean for all the groups are summarized in the following table.

Sl. No.	Group	Mean Scores Marital Adjustment	
		Husbands	Wives
1.	Husbands overlearned, wives educated	60·1	35·8
2.	Husbands educated, wives overlearned	44·2	33·4
3.	Husbands & wives both overlearned	51·5	55·2
4.	Huabands & wives both undergraduated	62·4	62 4

Duncan's Range Test is applied to check the significance of difference among the means of different groups. Results regarding the husbands indicate that :--

(i) The Marital adjustment (M=60·1) of overlearned husbands with wives educated only is found to be significantly better (at the 5 percent level) than the Marital Adjustment (M=51·5) of overlearned husbands with wivs also overlearned.

(ii) The Marital Adjustment (M=60·01) of overlearned husband to be significantly better (at the 5 percent level) than the marital adjustment (M=44·2) of educated husbands whose wives are overlearned.

This means that when husbands are over equalified than their wives, they perhaps feel that their positions are secured or they have more power and consequently their marital adjustment is superior, but when husbands are lesser qualified than their wives also are over qualified, the marital adjustment score is worse due to some sort of inferiority feeling or due to equalization of power structure of husband and wife in the family. Thus, inspite of Equalitarian-authority expectations and Women's Liberation Movement in our Man-dominated society, husband's role is very crucial and has significant and strong impact upon the marital happiness in marital-dyad. (Locke, 1951 and Gianopules and Mitchel, 1957). Results regarding the wives indicate that—

(i) The marital Adjustment(M=43·4) of overlearned wives with husbands educated only, is found to be significantly worse (at the 5 percent level) than the marital adjustment (M=55·2) of overlearned wives with husbands also overlearned.

(ii) The marital Adjustment (M=43·4) of overlearned wives with husbands educated only, is found to be significantly better (at the 5 percent level) than the Marital Adjustment (M=35·8) of educated wives whose husbands are overlearned.

This result can probably be explained by the issue of family power structure and female education and employment. Here, in this study, all the overeducated wives are employed. Hence, it may be inferred that education and employment emancipates women from their husbands' domination and effect the power structure of the family by equalizing the resources of husband and wife. An overlearned and working wife's husband listens to her more and she too can listen to herself more. Thus, her power increases and relatively speaking, the husband's falls. Several studies have supported this change (Blood & Wolfe, 1960 etc.). Also the educational differential apparently reflects the fact that better educated women have an easier time-securing work outside the home (Sweet, 1973), the income differential reflects obviously, the contribution of the second income (Wright, 1978). (Ferree, 1976) concludes that "despite the strains of carrying a double work, the woman with full time outside job is happier and feels herself to be better off than the full time housewife".

Interestingly enough, we find that the Marital Adjustment of both the partners in the couple is best when both are undereducated. The Marital Adjustment (M=62·4) score is equal for husbands and wives of this category and happens to be highest than for any other group. We might believe that spouses with limited education, do not have highre expectations and aspirations and so they feel themselves satisfied in their lives. Consequently, they have better interpersonal relationship, accept the responsibility of the marriage and thus have satisfactory role performance. All these characteristics contribute to both physical and psychological well-being of spouses—individually and collectively.

Another interesting result is that where husband and wife both are overlearned, that is, they are educated equally, having Doctoral or Post Doctoral Degree, the Marital Adjustment (M=51·4 Husbands ; M=55·2 Wives) scores of both the partners are better than the First & Second groups where both the partners are not equally educated. This may support the idea that overeducated spouses have better cognitive consistency & it affects their marital relationship. Campbell et. al. (1976) also reported that better educated and more affluent persons are consistently more satisfied with life. Again education and employment of women accompany changes from male domination to husband-wife equality in decision making process & increased participation of males in the routine household tasks (Marie Dunn, 1960 and Hoffman, 1965). Husbands of working wives themselves are reported change towards equalitarian authority expectation (Stoltz, 1960, Fallers 1965 ; Young & Wilmolt, 1973). In this type of changed and helthy environment, overlearned women enjoy satisfaction in their home and outside activities.

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Asian Journal of Psychology and Education
1985, Vol. 15, No. 4, Page 12–14

A Study of the Relationship of Adjustment with Certain E.P.P.S. Need at Different Levels of Family Size

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Introduction :

After the infant's first encounter in this world he starts adjusting himself with the changing environment all through his life. The man gets released of this problem of adjustment in his grave. Healthy adjustment with the changing needs of life leads to a blanced or integrated and dynamic personality. But sometimes it so happens that man fails to fulfill his needs. When his needs become thwarted he feels frustrated. His physical as will as psychological equilibrium gets impaired and he becomes maladjusted. So, it can be concluded that needs determines the adjustment problem of the individual. Not only the needs lead to proper adjustments, there are also other factors like socio-economic status and intelligence which have influenced on the pattern of adjustment. Pupilsfrom different socio-economic status, have different needs peculiar to their particular socio-economic status. Similarly the above average intelligent pupils never want to pass the enamination unlike the below average students. The above average student can never be well adjusted by getting a pass mark. Although adjustment is related with needs, intelligence socio-economic status and family size play an effective role in the process of adjustment. The pupil from a large family where the members of the family are more has not the same type of adjustment problem unlike the pupils who have come from a small size family.

Objectives of the Study : Following are the objectives of the study.:

(i) To set regression equations for predicting the dependent variable such as (Personal & Social) adjustment with different levels of family (High, middle, low) size on the basic of knowledge about independent variables such as n-Achievement, n-Aggression, n-Dominance, n-Hetero-sexuality, Intelligence and Socio-economic status.

(ii) To find out the individual contrubution of different independent variables, of predicting the above mentioned dependent variable.

Formulation of Hypotheses :

Following were the hypotheses set by the investigator for the present study :

(i) There exists significant relationship between personal adjustment of students and their needs for Achivement, Dominance, Hetero-sexuality Aggression, Intelligence and Socio-Economic status.

(ii) There exists significant relationship between social adjustment of students and their needs for Achievement, Dominance, Heterosexuality Aggression, Intelligence and Socio-economic status.

(iii) There exists a significant role of family size on the relationship between dependent variable and independent variable.

Plan and Procedure : For research work sampling is both essential and advantageous It saves the investigators time, energy and money, Sample is selected on the basis of certain criteria, which will satisfy the requirements of an investigator with respect to his problem. For this study, the investigator used the cluster random sampling procedure. He has taken randomly the 200 adolescents of the X class from different schools of Cuttack District, Orissa. The schools from date where collected are given below :

Sl. No	Name of the School	Number of students
1.	Ranihat High School	50
2.	B. C. Vidyamandira, Redhua	35
3.	A. B. High School, Palasore	29
4.	Bhadreswar High School	17
5.	Binapani High School	45
6.	Samanga High School	24
	Total	200

Tools Used ; Following were the various tools used for the collection of data.

1. The simple Junior 'A' Intelligence Test.
2. Adolescant Adjustment Inventory by N. Y. Reddy.
3. Hindi Adaptation of Edward Personal Preference Schedule.
4. Socio-economic status Scale by P. G. Aron, M. G. Marihal and R. N. Maltesha,

With the prior permission of the head of the institutions, the time and date was fixed by the investigator. In the mean time the investigator visited these schools and administered his tests. The scoring was done as prescribed in the Manual of different tests and scales.

In order to analyse and interpret the raw data, the researcher has taken the help of different statistical techniques. The distriubution of family members was made and value of P 25 and P 75 of this distribution was computed. The scores of P-25 and

P 75. represent the numbers of family. The value of P 25 and P 75 were 9·17 and 13·17. The family above 14 numbers of family members was considered as large family. The family with 9 to 13 members was considered as middle family and the number below 9 was cosidered as small family. For the present study the investigator applied Multiple Regression Equation. There results are given below :

Small family social adjustment—Y. P=

$a+b^{1}\times 1+b^{2}\times 2+b^{3}\times 3+b^{4}\times 4+b^{5}\times 5+b^{6}\times 6=-{\cdot}510$

Small famlly and Personal adjustment. ·369

Middle family and Social adjustment ·132

Middle family and personal adjustment ·214

Large family and Social adjustment. ·371

Large family and Personal adjustment— ·320

Findings :

1. It has been found in the regression equation that n-Dominance. n-Heterosexuality and n-Aggression were found to be the negative correlates of predicated variable that is social adjustment in the small family size where as n-Achievememt, intelligence and S. E. S. were found to be the positive correlates of the same. In case of personal adjustment in small family, n-Dominance, n-Hetrosexuality were found to be negative correlates and rest of the three independent variable, such as n-Aggression, Intelligence and S. E. S. were found to be the positive correlats.

(ii) In the case of social adjustment in the middle family n-Dominance, was found to be the only positive correlate of the five variables that is n-Achiement, n-Heterosexuality, n-Aggression, Intelligente and S. E. S. were found to be negative correletes.

In the same family n-Achievement, n-Heterosexuality were found to be negative correlates of personal adjustment and n-Dominance, n-Aggression, Intelligence and S.E.S. were found to be the positive correlates of personal adjustment.

(iii) In the case of social adjustment in the large family n-Heterosexuality, n-Aggression, Intelligence and S.E.S. were found to be positive correlates where as the other independent variables n-Achivement, n-Dominance were found to be the negative correlates.

In the same family n-Achievement, n-Aggression Intelligence and S.E.S. were found to be positive correlates where as n-Dominance and n-Heterosexuality were found to be negative correlates of personal adjustment.

Asian Journal of Psychology and Education
1985, Vol. 15, No. 4, Page 15–21

A Study of Meaningfulness dnd Difficulty of Verbal Learning Task in the High and Low Anxiety Children

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INTRODUCTION

A great deal of research has been conducted to find out the role of various factors which affect the different forms of verbal learning. Attempts have been made to study the effect of anxiety, meaningfulness and non-meaningfulness ; difficulty and non-difficulty of the task on human verbal learning. Taylor and Kenneth (1952) who studied the relationship between anxiety level and performance in serial learning found that the anxious Ss make a significantly greater number of errors and require a large number of trials to reach the learning criterion. Montague's (1953) results have shown that anxious Ss performed less well than non-anxious Ss on the difficult task with many incorrect tendencies who showed greater improvement of performance as the task became easier and surpassed non-anxious subjects on the task with the least number of incorrect tendencies. Sheldon and Levine (1957) have shown that LA Ss performed better on word-associates but distinctly superior in the learning of false equation than the HA Ss.

Sarason (1957) found in his study that motivating instructions rather than facilitating performance resulted in large inter-subject variability and the highly motivating instructions were facilitative only for middle anxious and low anxious groups. The high anxious group when given the instructions performed at a significantly lower level than the HA control group. Sarason (1958) studied the effects on verbal learning of anxiety, re-assurance and meaningfulness of material and reported that the nature of task was an important variable in evaluating effects of anxiety. He concluded that a very difficult task may lead to a greater decrement in performance for HA Ss than for HA Ss than for LA Ss because a more difficult task may arouse much more anxiety than would a simple task for HA Ss.

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* The investigators are thankful to Dr. (Mrs.) Amrit Kaur, Professer & Head, Deptt. of Education, Punjabi University for her kind help and guidance in completing research paper.

Sassenrath, Knight and Athey (1964) found a significant difference on the difficulty non-competition list in which the high TAQ Ss performed less well than the middle and low TAQ Ss ; which shows that where task difficulty is known to be either low or high, anxiety drive, as measured by TAQ does not affect the learning paired associates where some degree of control over *Ss* had denotating of meaning of paired associates. Mustice (1969) revealed singificant correlaton co-efficients cetween meaningfulness of verbal learning and age (.70), socio-economic status (−.17) and intelligence (.38) and a significant decrease in the relationship between intelligence and learning as meaningfulness increased. It was also fund that at the upper extreme of meaningfulness, differences in learning between significantly different groups tended to become non-significant.

Passi and Singh (1972) studied the effect of Intelligence and anxiety upon serial learning in relation to associational and difficulty level of learning task. It was found that intelligence, anxiety and interaction of intelligence, anxiety, association and difficulty had a significant effect upon learning of non-sense syllable. Wolk (1974) studied the influence of meaningfulness upon intentional and incidental learning of verbal material and found that Ss responded similarly to increased task meaningfulness under both learning conditions and provided evidence of identical performance patterns overtime.

The aim of the present study was to find in what manner and how far variable like anxiety, meaningfulness and difficulty of the task inhibite learning. The present study aimed at :

(i) to determine the effect of anxiety on learning viz-a-viz meaningfulness vs. non-meaningfulness of verbal material.

(ii) to determine the effect of anxiety on learning viz-a-viz difficulty Vs. non-difficuity of verbal material.

(iii) to find the interactional effect of the three variables – anxiety, meaningfulness and difficult of the material on verbal learning.

Hypotheses of the Study :

The hypotheses of the present study were ;

1. LA Ss would show better performance on verbal learning than the HA Ss.
2. HA Ss would show better performance on meaningful verbal material than the LA Ss. Similarly, LA, Ss would show better performance on meaningfulness verbal material than the HA Ss.
3. LA Ss would do better on difficult verbal material than the HA Ss. HA Ss were expected to do better on non-difficult verbal material than the LA Ss.

Design and Procedure

1. *Design* : In two 2×2 factorial designs, the variables manipulated were (a) two levels of anxiety - high and low anxiety as measured on Sarason's Test of Anxiety Scale

TAS) ; (b) Two levels of meaningfulness—meaningfulness and non-meaningfulness of the material and (c) two levels of difficulty-difficulty and non-difficulty of the material. This study was aimed at finding out the effect of these variables on verbal learning i. e. (i) the relationship between anxiety and meaningfulness of the learning task and (ii) anxiety and the difficulty of the learning task.

2. **Sample :** The final sample of the present study consisted of 80 female students of 10th class taken from 9 Schools of Patiala city. These 80 Ss were selected out of the 400 Ss who were administered the Sarason's Test of Anxiety Scale for measuring the test anxiety or the Ss. Out of these 400, two groups i. e. high anxiety group (HA) and low anxiety (LA) were formed on the basis of Q 3 and Q 1 scores on test Anxiety Scale. In this way, 92 Ss fell in the HA group and 83 in the LA group. These Ss were matched on the basis of intelligence and age. The Ss who obtained score on Hundal's General Mental Ability Test between Q 1 and Q 3 were taken for the final sample. Out of these, 40 Ss were selected out of 92 Ss for the HA group and 40 Ss out of 83 Ss for the LA group. All these students were between 14 to 16 years in age.

Materials :

1. Sarason's Test Anxiety Scale : For the purpose of selecting students for the High Anxiety Group (HA) and low Anxiety Group (LA), Sarason's Test Anxiety Scale in Punjabi version as adapted by Sawhni (1966) was used. This test of Anxiety scale for children (TASC) is the instrument which was developed by Sarason to measure test anxiety in children. It consists of 41 items including 11 lie items. The reliability co-efficient for TASC is ·88 by the split-half method and ·86 by the K. R. formula.

2. Hundal's General Mental Ability test ; For purpose of matching the groups on the basis of intelligence. Hundal's General Mental Ability test was administered. It is a group test of intelligence and consists of 100 items. Time limit for this test is 20 minutes The split-half reliability of this test as reported by Hundal, on a sample of 400 children is ·94.

3. Verbal learning Task : The meterial for the learning task consisted of four cards; on two cards, the two lines from poetry were written. The difficult material from poetry stanza was taken from the Punjabi reader of 9th class. The easy material of two lines of poetry stanza was taken from the Punjabi reader of the 5th class. On the 3rd card, 10 meaningful words were written and on the 4th card, 10 non-sense syllables were depicted.

Out of 40 Ss in each group of high anxiety and low anxiety, four sub-groups of ten Ss in each group were formed. These four sub-groups of both high and low anxiety groups were given different verbal learning task. One sub-group was given difficult takes i. e. the poetry stanza of 9th class, the second sub-group was given the easy-poetry stanza of 5th class and the fourth one was given the list of non-sense syllables. Each S was given 5 trials to learn the material. The learning method employed was of prompting and anticipation method. The errors committed by the Ss in each trial were recorded.

Results and Discussion

The mean errors of the high and low anxiety groups on four different learning tasks are given in.

Table 1

Mean Errors of four sub groups on learning tasks of High and Low Anxiety groups

Anxiety Group	Learning tasks			
	MF	NF	DF	NDF
High	9·5	16·3	24·2	11·4
Low	6·1	36·9	10·5	20·9

It is clear from the above table that HA group committed more errors in the meaningful as well as non-meaningful learning task as compared the LA group, as the mean errors of HA are 9·5 and 16·3 in meaningful and non-meaningful tasks as compared to 6·1 and 10·9 respectively the LA group. Moreover, the Ss at both levels of anxiety committed more errors in case of non-meaningful learning task as compared to the meaningful task, the mean errors of 16·3 and 10·9 in the non-meaningful are compared with 9·5 and 6·1 in meaningful learning tasks in high and low anxiety groups respectively.

In the case of the difficult and non-difficult learning task LA groups made more errors as compared to HA group, as the mean errors are 36·5 and 20·9 in case of LA group and 24·2 and 11·4 in case of HA group. Comparing the difficult and non-difficult tasks of both groups of anxiety, it can be said that the Ss committed more mean errors on DF tasks as compared to NDF task. The mean errors in case of DF task is 24·2 and 36·5 and the same in case of NDF that is 14·4 and 20·9 in the HA and LA groups respectively.

Analysis of variances were done in order to find out the significant differences in the errors committed by the HA and LA groups on NF and NMF tasks, as well as on DF and NDF tasks. Table 2 shows a summary of analysis of variance done on errors of MF and NMF task of HA and LA groups.

Table 2

Summary of analysis of variance of errors of MF and NMF tasks of HA and LA group.

Sources of variance	Ss	df	MS	F
Anxiety	193·6	1	193·6	3·06*
Task	336·4	1	836·4	5·31**
A X T	10·0	1	10·0	·16
Error	2278·4	36	63·3	
Total	2818·4	39		

*P < ·10 ** P < ·05

From Table 2, *it* is quite clear that the F ratio computed on the basis of analysis of variance indicates a near significant difference in the errors on learning task between the two anxiety groups F=3·06, P <·10). It means that the high anxiety group committed more errors as compared to LA group. The differences between the errors committed by the Ss on learning meaningful and non-meaningful tasks was also found to be statistically significant, as the F ratio is 2·31 which is significant at ·05 level. It means that the errors committed were more in the case of Ss learning NMF task as compared to the Ss learning MF task. The interaction between anxiety and meaningfulness of the task was not found to be statistically significant (F=·16). It shows that there is no interaction between anxiety and meaningful learning task.

Table 3 presents a summary of analysis of variance done on the errors on DF and NDF task of HA and LA groups.

Table 3

Summary of analysis of variance of errors of MF and NMF taskof HA & LA groups

Sources of Variance	Ss	df	MS	F
Anxiety	1188·1	1	1188·1	4·80*
Task	2016·4	1	2016·4	8·15**
A x T	19·6	1	19·6	·08
Errors	8905·4	36	247·4	
Total	12129·5	39		

* P <·05 **P<·01

Table 3 shows that there is a significant difference in the errors committed by the two groups differing in anxiety as the F ratio was found to be equal to 4·80 which is significant at ·05 level which shows that low anxiety group committed more errors than high anxiety group. The significant differences on errors between Ss learning DF and NDF tasks was also found out (F=8·15, P <·01). It shows that the errors committed are more in the case of Ss learning difficult task than those learning non-difficult task. The interaction between anxiety and difficulty of the task was not found to be statistically significant (F=·08). It means that anxiety does not have a differential effect on the learning of DF and NDF tasks.

The results of the present study reveal that two groups of anxiety differ significantly in the meaningful learning task. HA group committed more errors as compared to LA group. The Ss learning MF and NMF tasks also differ significantly, Ss learning NMF task committing more errors than those learning of MF tasks. There is no interaction between anxiety and meaningfulness of learning task. Similarly, differences regarding errors committed by high and low anxiety groups learning DF and NDF tasks were found to be statistically significant. LA group committed more errors than the HA group. Statistically significant difference was found between the groups of Ss learning DF and NDF tasks, the former group making more errors than the later group. Again no interaction was found between level of anxiety and level of difficulty of the task Thus we may conclude that :

i) HA group commits more errors on MF and NMF task than LA group.

ii) In the case of both high and low anxiety groups, the Ss learning non-meaningful task commit more errors.

iii) LA group commits more errors on both DF and NDF tasks than the HA group.

iv) The errors committed are more in case of DF then NDF task in both anxiety group.

v) There is no significant relationship between anxiety and meaningfulness or between anxiety and the difficulty of the relations.

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Asian Journal of Psychology and Education
1985, Vol. 15, No. 5, Page 21-23

Punctuality and Life Satisfaction Among Tranquilizer Users

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The present study was designed to study punctuality and life satisfaction among tranquilizer users and non-users. The study was made on a sample of 100 older adults-50 tranquilizer users and 50 nonusers from Azamgarh district whose age ranged from 20 to 35 years with mean age of 30-35 years. An individual addicted ta drug or any other tranquilizer for a period of two years or more without any medical advice is regarded as tranquilizer user. Life satisfaction and punctuality scales were administered. The result showed drug users differs significantly than non-drug users on Punctuality and Life Satisfaction Scales. Non-drug users are more punctual than drug users. Non-drug users reported greater life satisfaction than drug users.

Introduction

In modern era there is a rage for using tranquilizers. And the abuse of drugs of changed considerably the sphere of human behaviour. The younger generation students are using tranquilizer, alcohal, tobacco and other narcotic formulations on a wide scale. Wells &,Staccy (1976) have found that drug misuse have affected the human personality characteristics and is closely related to elevated level of anxiety, neuroticism and psychoticism, whereas extraversion-introversion proved to be a personality dimension unrelated to the misuse of drugs. Those who use drugs are more anxious, neurotic and psychopathic than non-users (Citola & Peterson 1976, Kilpatrick et. al, 1976, Lynn 1973, Marin 1976). Studies related with the attitude of drug users show clearly that drug users have favourable attitude toward drugs (Calhoun 1974, Girja & 1977, Hartnoll & Mithenson 1973, Kudela 1975, Trice & Beyer 1977) and they can be clearly differentiated with non-drug users on demographic, attitudinal and frequeny-of-use characteristics (Spevac & Pihl 1976).

Life satisfaction and punctuality are important variables supposed to exercise immense influence on human behaviour and personality. These motivational variables have not been studied in relation to drug (tranquilizer) users and non-users. Consequently, the present study was designed to ascertain the influence of drug on punctuality and life satisfaction.

METHOD

Sample

The study was made on a sample of 100 older adults-50 tranquilizer users and 50 non-users from Azamgarh whose age ranged from 20 to 35 years and with mean age of 34·25 years. None of the S was paid for participating in the study.

Tools

8. Life-satisfaction Scale-constructed and standardized by Alam & Srivastava. Scale consists of 60 items related to six areas viz. Health, Personal, Economic, Marital, Social and Job. The test-rest reliability was found. 84. The validity of the scale was determined by correlating it with Saxena Vyktitva Parakh Prashnavali and Srivastava Adjustment Inventory. The quotient were found ·74 and ·82 respectively.

2. Punctuality Scale constructed and standardized by Alam & Srivastava (1962). The test-retest and odd-even reliabilities of the seale were found to be ·73 and ·78 respectively.

Procedure

Firstly, Ss were categorized into two groups i.e. Trnnquilizer users and Non-users. Then punctuality scale and life satasfaction scales were administered.

Result and Discussion

Table showing Mean, SD and t values.

Dimensions	Tranquilizers			Non-users			t	df	Level
	N	M	SD	N	M	SD			
Punctuality	50	83·6	7·97	50	136·5	6·18	37·096	98	·01
Life Satisfaction	50	23·12	2·24	50	42·7	6·03	21·52	98	·01

It is evident from the table that tranquilizer users differ significantly than non-users on both punctuality and life satisfaction scales. It indicates that non-users are more punctual than tranquilizer users. There is nothing surprising in it, as a non user is supposed to be more punctual and regular in his daily routines. Since drug users deviate from all social norms they also can not observe punctuality in drug state.

Table also shows that life satisfaction among older adults is related to ttanquilizer. It is evident from the table that non-drug users reported greater life satisfaction than non-drug users. Since depression tends towards mirth and enjoyment, drug users develop this habit in order to forget their sense of frustration in life. The more it increases, the greater their dissatisfaction becomes and hence drug users are generally disatisfied People.

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Asian Journal of Psychology and Education
1985, Vol. 15, No. 6, Page 24–27

Creativity, Intelligence, Emotional Maturity, and Self-acceptance in relation to teacher effectiveness

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210 *high school teachers were administered tests of creativity, intelligence emotional maturity, and self-acceptance in order to study the relationship of these variables to their teaching effectiveness. The data was analysed in the framework of a* 2×2×2×2 *factorial design. The main effects of creativity, intelligence and emotional maturity which came out to be significant show that the teachers who were high on these variables were more effective than those who were low. The main effect of self-acceptance was not significant. Of all the interaction effects, only that of self-acceptance-intelligence was significant showing high self-acceptance to enhance the effectiveness of teachers, although to a moderate degree.*

What are the distinguishing characteristics of effective teachers ?

To find out an answer to this question a fairly large number of studies have attempted to explore teachers' personal characteristics and their actual classroom behaviours, technically termed as presage and process factors, respectively. Among the presage factors, particularly those relating to personality aad cognitive characteristics, which the various studies have found to be of some importance in teacher effectivenes are creativity Mathew, 1970), intelligence (Adaval, 1952; Kakker, 1965), emotional maturity (Kaul, 1972; Warburton, 1963), and self-acceptance (Veldman and Kelley, 1968). The present investigation was an attempt to study these factors simultaneously in the framework of a factorial design with particular interst in discovering interaction effects.

METHOD

Sample :

210 teachers were selected from 20 high schools of Sundergarh District in the State of Orissa, using stratified random sampling based upon age, sex, qualifications, and length of teaching experience of the subjects.

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1. Education Department.

Tools :

The following tests were used for the collection of data :

(i) Deo-Mohan's Test of creativity-non-verbal (1972) consisting of four 12×9 size cards depicting configurations of straight and curved coloured line drawings.

(ii) Raven's Standard Progressive Matrices.

(iii) Emotional Maturity Scale (Sethi and Patel, 1980) having 54 rating items of positive and negative emotional characteristics.

(iv) Deo's Personality Word List (1971), a 90-item rating scale as a self-acceptance measure.

(v) Teacher Effectiveness Scale (Kumar and Mutha, 1973), a 69-item rating scale covering teacher's knowledge, skills, and activites.

All the tests are [claimed to be reliable and valid measures on various accepted criteria.

RESULTS AND DISCUSION

After satisfying the assumption of homogenuity of variance through the application of test, the data were analysed in the framework of a 2×2×2×2 factorial design. This involved 2 levels [(obtained by median-splits) each of creativity, intelligence, emotional maturity, and self-acceptance. The summary of the analysis in given in Table I.

Table I Summary of 2×2×2×2

ANOVA

Source	df	M	F
Main Effects :			
Intelligence (A)	1	7490·30	27·886**
Creativity (B)	1	1232·50	4·59*
Emotional Maturity (G)	1	1190·00	4·43*
Self-acceptance (D)	1	513·30	1·91
First-order Interaction :			
A×B	1	150·30	0·56
A×C	1	18·00	0·07
A×D	1	1717·40	6·39*
B×C	1	477·10	1·78
B×D	1	165·50	0·62
C×D	1	37·50	0·14
Second-order Interaction ;			
A×B×C	1	91·70	0·34
A×B×D	1	62·90	0·23

A×C×D	1	279·80	1·04
B×C×D	1	121·30	0·45
Third-order Interaction :			
A×B×C×D	1	216·60	0·81
Within Sets	80	268 65	–

** Significant al ·01 level

* Significant at ·05 level

Table II

Mean scores of teachers effectiveness for the four independent variables

Level	Intelligence	Creatlvity	Emotional Maturity	Self-acceptance
High	306·96	301·71	394·60	300 43
Low	289·39	294·54	301·65	295·81

Table I shows that out of the three significant main effects. that of intelligence is significant at 01 leval, and those of creativity, and emotional maturity are significant at ·05 level. An examination of the effectivenss mean scores of high and low groups of teachers on the three variables, as given in Table II, reveals that the teachers who are high on intelligence, creativity, and emotional maturity are more effective than the teachers who are low on these variable of self-acceptance, implies, that this variable in itself is not crucial to teaching effectiveness. However, the significant first order interaction of self-acceptance and intelligence does point to the importance of self-acceptance as a modifying variable in teaching effectiveness.

Table III

Intelligence-Self acceptance Interaction mean scores of teacher effectiveness scores

Intelligence	Self-Acceptance High	Low
High	308·88	305 04
Low	295·83	282·75
SEd=4·73		

Value of Sig.
differences=12·78 at ·01 level
with df (80) 9·41 at ·05 level

An inspection of Table III showing intelligence-self acceptance interaction mean scores reveals that although self-acceptance is not of much consequence to teachers of high intelligence, it is particularly important to teachers of low intelligence. In other words, it appears that teachers with high intelligence are likely to be effective itrespective of their level of self-acceptance. With low intelligence, however, teaching effectiveness is enhanced by self-acceptance. The magnitude of effectiveness in this case, however, is of about moderate or intermediate level, as shown by the mean effectiveness scores in Table III. Low intelligence and low self-acceptance on the other hand make for little teaching effectiveness. This finding partially supports some previous researches (e. g. Gupta, 1976; Kakker, 1965) in that both intelligence and self-acceptance in one way or the other account for teacher effectiveness. What the present study further reveals is that even low intelligence when combined with high self-acceptance may be associated with atleast moderate teacher effectiveness. None of the other first or second order interactions are significant showing an absence of mutual modification effect in teaching effectiveness scores. In brief, an important implication of this study would be that in teacher selection and teacher education programmes, emphasis should not be laid on intelligence alone, but also on other cognitive-affective factors like creativity, emotional maturity, and self-acceptance.

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Asian Journal of Psychology and Education
1985, Vol. 16, No. 15, Page 28–31

Personality Differences of Arts, Science and Language Post-graduate Students

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The present study was an attempt to find whether post-graduate students from arts, science and language faculties differ in this personality make up in terms of Eysenck's Extraversion (E/I) and Neuroticism (N). A group of 525 post-graduate students-remified into 205 arts, 200 science and 120 language students, were administered RPI. The results indicated that science students scored significantly lower on both E/I and N. Arts students were medium on E/I but highest on N. Language students were most extravered but mediocre on N. The fact that science students were stable introverts, fitted into the theoretical assumption of biological basis of autonomic and cortical arousal as related to N and E/I. Introverts can persist and attend better, and stable person can do better on more difficult tasks; as such it is no wonder that science students emerged as stable introverts.

Personality plays an important role in one's persistence on a difficult task like academic achievement. There are degrees of difficulty levels in the study of different subjects. Feld and Newcomb (1974) suggested that students enrolled in different curricula show some special common personality characteristics. Student's chosen academic field tends to accentuate these personal characteristics. Holland (1973) observed that students search out academic environments that are compatible with their personality type. These speculations led to some research attempts directed to discover the relationship between major types of personality and curricula choice. Some work is available showing relationships of Eysenck's personality dimensions and choice of academic fields.

Eysenck (1971) pointed out that performance and successful completion of various academic courses are governed more by personal qualities such as Extraversion/Introversion (E/I) and Neuroticism (N) than by cognitive abilities. Wankowski (1976), Kokosh (1976), Vohra (1977) found that introverts gravitate towards the science cources while extraverts seem more at home with arts courses. The study of science requires persitent work, regularity, and capacity to work for a prolonged period of time. The introverts because of their quicker arousal [slower accumulation of reactive inhibition and 'efficient consolidation' (Eysenck 1967) perform better in science which is difficult requires sustained attained attention and persistence and hard work. Extraverts because of their slower arousal, greater inclination to accumulate reactive inhibition and its slower dissipation, cannot sustain attention nor persist. As such they would tend do choose academic courses which are comparatively simpler and less taxing.

Neuroticism (N) is equated with autonomic drive (Eysenck, 1067; Mohan, 1976). According to the Yerkes Dodson law, there is an optimum level of drive required in accordance with the level of task difficulty. The more difficult the task the lesser the amount of drive required. Mahan (1976) pointed out that beyond a certain point anxiety or N may starts having its deleterious effects on performance. This was experimentally borne out by Mohan and Kumar (1979) using neurotic and stable to perform on standard progressive matrices. Reduction of stress helped the neurotic Ss. The task difficulty of science courses is surely higher than that of arts or languages. Hence the students opting for science courses would be expected to score lower on N. Rao (1966) Hornet et al. (1975) and Vohra (1977) found science and engineering students to score lower on N.

Since both cortical arousal (as in the case of E/I) and autonomic drive (as in the case of N) affect academic achievement, the present study was conceived to find out whether students who opt for science, arts and languages at the postgraduate level, show differences in their personality make up. In the light of the review one may expect science students to score low on E/I and N.

The total sample consisted of 525 post-graduate students of Panjab University. There were 205 Ss from Arts, 200 Ss from Science and 120 Ss from language faculties. It was seen that both the sexes had approximately equal representation. Randomized sampling was done. Care was taken to have Ss from all science, arts and humantiies and language departments. These 525 Ss were then adminstered Eysenck's Personality Inventory-henceforth called RPI (Eysenck and Eysenck, 1964). Ss scoring more than 5 on the lie scale were rejected.

Resuls And Discussion

The respective means and SDs on E/I and N of the three groups of Ss i e., arts, science and languages are presented in Table I. In order to test the inter-group difference in the mean scores of E/I and N if any, t-ratios were caloulated. These t-ratios are also presented in Table I.

Table I

Means. SDs and t-Ratios for Arts, Science and Languages Ss on E/I and N

	Extraversion			Neuroticism		
	Arts	Science	Lauguage	Arts	Science	Language
Means	10 32	9·35	11·01	11·64	8·32	10 00
SDs	3·93	3·38	2·41	4 59	4·50	2·47
t-ratios						
Arts	×	2·85**	2 03**	×	7·54**	4·31**
Science		×	6·91**		×	3·42**
Language			×			×

** significant at ·01 level

* significant at ·05 level.

The present results show that the science students are scoring significantly low on both E/I and N, n comparison to arts and language students (see Table I). These findings are very much in the paedicted direction. Study of science being the most difficult of the courses, the student is required to persist, attend and work hard. Because of the biological make up of introvert, he is expected to do better and the results substantiate this, Cocker (1975) found Science students to be more introverted. Wankski (1977) Rezler and Buckly (1977) also reported introverts to gravitate towards hard science courses. The drive level too should be lower because learning of science is a difficult task, as such we found the science students scoring lower on N. Rao (1966), Hornet et al. (1975) and Vohra (1977) also reported similar trends on N in science and engineering students.

The arts group of students scored significantly lower on E/I than language group but higher on N. As pointed out by Rezler and Buckley (1977) the extraverts tend to gravitate towards arts and social sciences The language students turned out to be most extraverted but less neurotic. Usually the tendency in students seeking to do post-graduate studies is, to take up arts and social sciences courses and in case they cannot get admisston in these courses, they move to languages. Amongst languages too, English attracts somewhat brighter group in comparison to other vernaculars.

The findings of this study can be useful for educational counselllng. Apart from ability, personality factors also play an important role in academic success (Mohan 1976).

Science course being more difficult, besides having a good score on general intelligence and certain specific aptitudes, a student must be more introverted and stable. Thus if a person is having good ability but is highly extraverted and neurotic he may not be able to cope with the study of hard core science subjects which required regular work, attention persistent and stability.

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